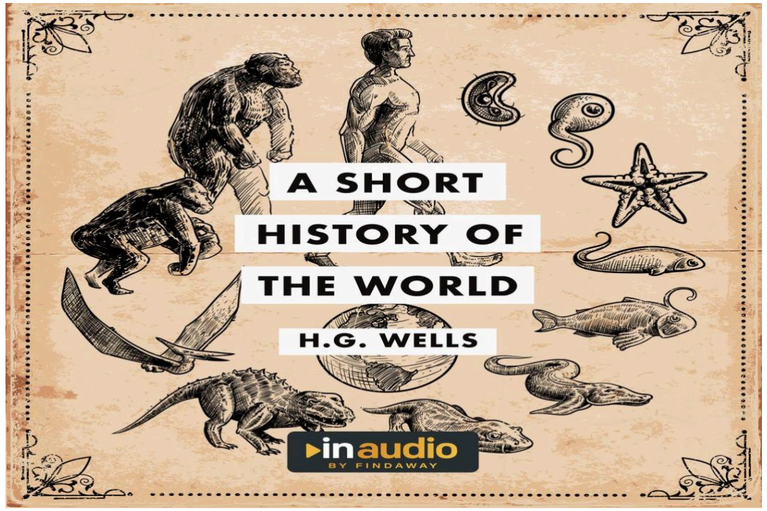
The Cosmic Epic of Life & Death:
A Nonfiction Novella

By

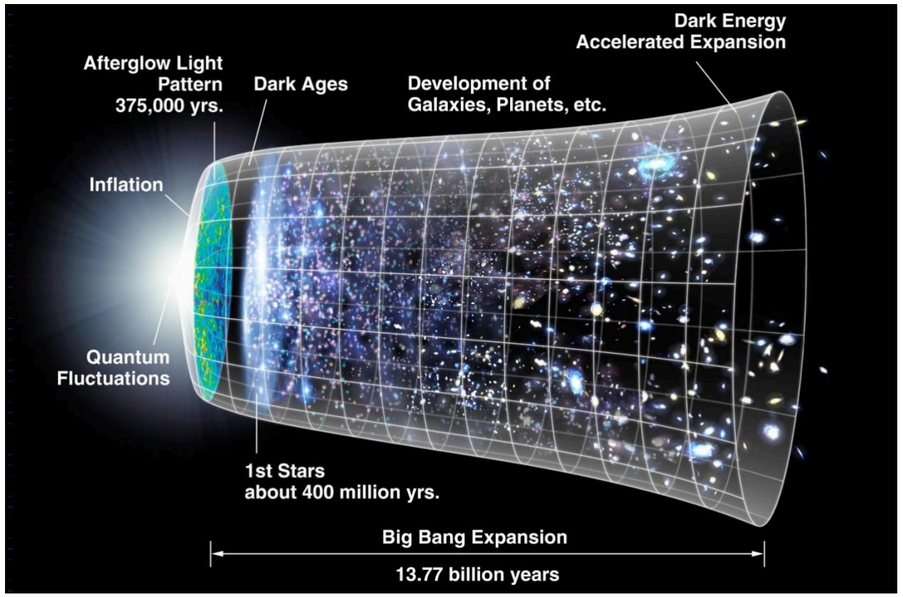
Jaime Gomez Jr.

Inspired by

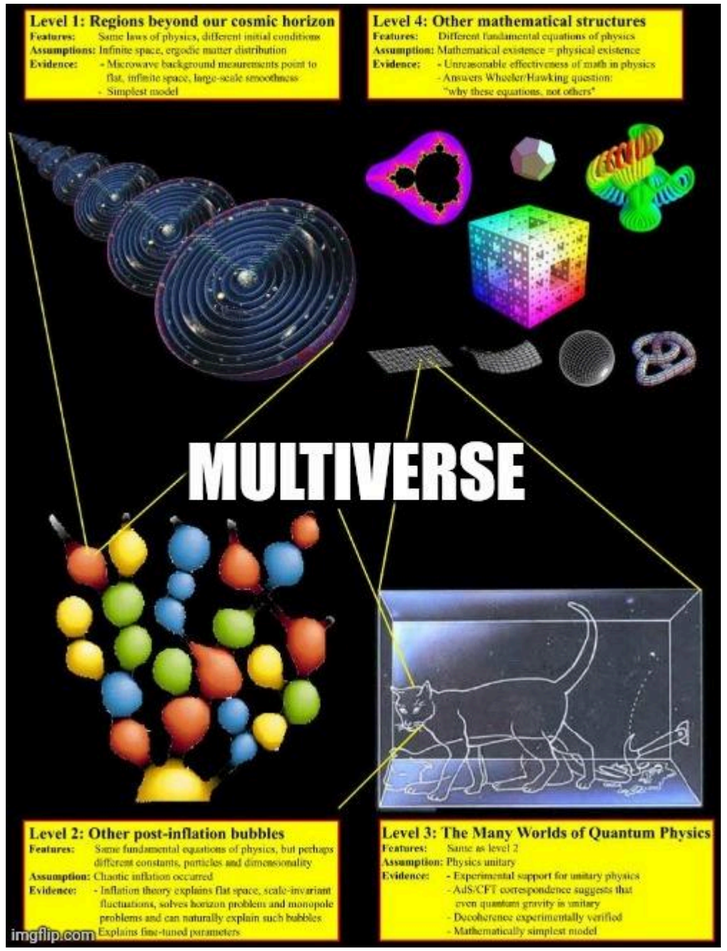
A Short History of the World **by H. G. Wells**



The grand story that follows is the whole story of Man, the cosmic epic of life and death, from the beginning of the universe to the ending of the universe. The history of the universe can be divided into several major historical periods that cover the universe, the earth, life, mankind, and civilization. The major historical periods include the following: the Big Bang and the age of the nebulae (also known as the Primordial Era from about 14 billion years ago to about 380,000 years after the Big Bang); the age of the galaxies, stars, and planets (also known as the Stelliferous Era from about 13 billion years ago to the present day until the last stars lose their nuclear fuel); the age of the first living things (the beginning of the Organic Era from about 4 billion years ago to the present day until the extinction of the last life forms in the universe due to the heat death of the universe); the age of the fishes (also known as the Devonian period, which began about 420 million years ago); the age of the amphibians (also known as the Carboniferous period, which began about 360 million years ago); the age of the reptiles (also known as the Mesozoic Era, which began about 250 million years ago); the age of the birds and mammals (also known as the Cenozoic Era, which began about 65 million years ago and continues to the present day); the age of the bipedal primates (beginning within the last 10 million years); the age of mankind (from the origin of the species *Homo sapiens* about 300,000 years ago to the current Anthropocene period of human globalization and industrialization with its massive effects on the climate and biosphere); and finally, the end of the universe in the form of the Big Crunch or the Big Freeze (known as the Degenerate, Black Hole, and Dark Eras, lasting from about a quadrillion years or 10 to the power of 15 to a googol years or 10 to the power of 100 into the far future, in the heat death model of the end of the universe). All these ages vary greatly in duration but they all share the similarities of introducing new levels of complexity and originality into the universe and of leading eventually to the dawn and end of Man.



In the first age of the Big Bang, all matter, energy, space, and time are compacted into a primordial particle or gravitational singularity smaller than the smallest atoms. In this pre-Big Bang state, space-time and a single unified force of mass-energy are compacted in a state of near infinite density, infinite heat, and infinitesimal size. This cosmic singularity at the Big Bang is similar to the extreme conditions of the gravitational singularity that forms following the creation of black holes. From current scientific understanding, this primordial particle or gravitational cosmic singularity was all that existed before the Big Bang and before the beginning of time and space in the universe.


Level 1: Regions beyond our cosmic horizon
Features: Same laws of physics, different initial conditions
Assumptions: Infinite space, ergodic matter distribution
Evidence: - Microwave background measurements point to flat, infinite space, large-scale smoothness
- Simplest model
Level 4: Other mathematical structures
Features: Different fundamental equations of physics
Assumption: Mathematical existence = physical existence
Evidence: - Unreasonable effectiveness of math in physics
- Answers Wheeler/Hawking question: "why these equations, not others"
MULTIVERSE
Level 2: Other post-inflation bubbles
Features: Same fundamental equations of physics, but perhaps different constants, particles and dimensionality
Assumption: Chaotic inflation occurred
Evidence: - Inflation theory explains flat space, scale-invariant fluctuations, solves horizon problem and monopole problems and can naturally explain such bubbles
- Explains fine-tuned parameters
Level 3: The Many Worlds of Quantum Physics
Features: Same as level 2
Assumption: Physics unitary
Evidence: - Experimental support for unitary physics
- AdS/CFT correspondence suggests that even quantum gravity is unitary
- Decoherence experimentally verified
- Mathematically simplest model
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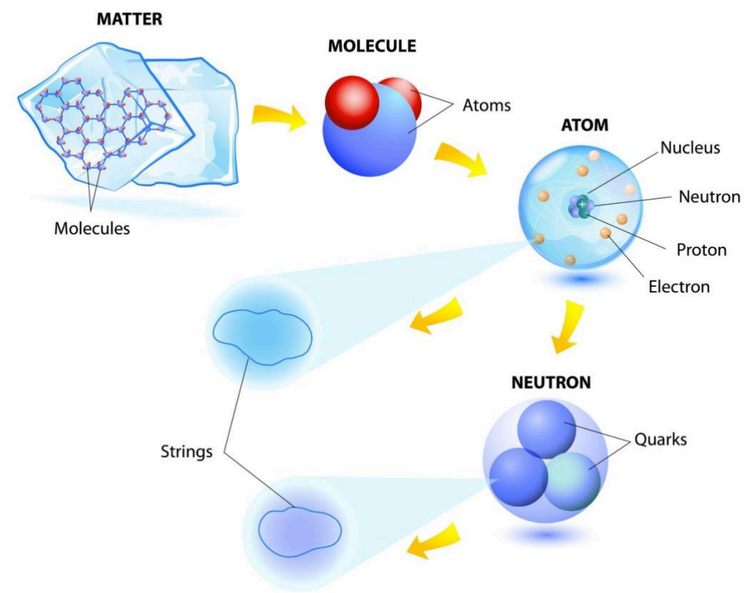
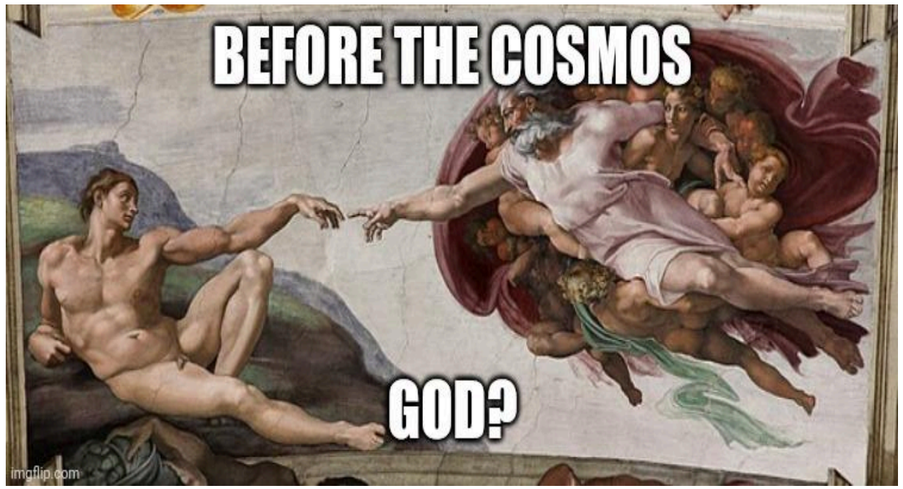
The various religions speculate that a God or gods were responsible for creating and influencing this singularity to create the universe, but modern cosmology professes no beliefs in any of these gods and assumes the singularity always existed in a timeless state before the Big Bang or it was created from the interaction of pre-existing multiple and perhaps infinitely many parallel membrane universes, perhaps of varying higher spatial dimensions beyond the four dimensions (length, width, depth, and time) of the familiar universe. While the original

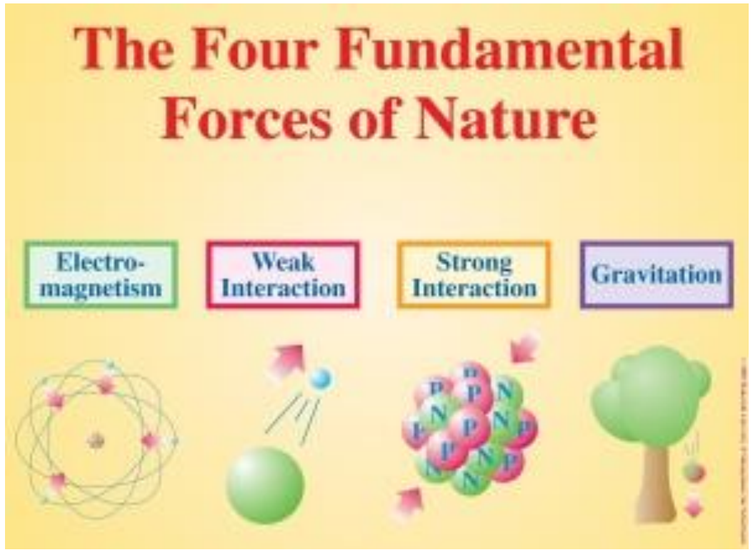
form of superstring theory hypothesized that there are a total of 10 dimensions of hyperspace (one version of string theory even postulated as many as 26 dimensions of hyperspace), the unification of the various string theories in M-theory (membrane theory) suggests there are 11 dimensions (10 spatial dimensions and 1 temporal dimension) of hyperspace. Confusing matters further, F-theory (or Father string theory) argues there are 12 dimensions of hyperspace (10 spatial dimensions and 2 temporal dimensions). Of course, philosophical metaphysics and pure mathematics theoretically allow the existence of an infinite number of spatial dimensions, but such an infinite number of spatial dimensions does not currently appear to be accurate in modern physics descriptions of the universe and multiverse. In one version of superstring theory, the observable universe began as an unstable but maximally symmetrical 10-dimensional universe existing in a false vacuum energy state prior to the Big Bang. The Big Bang resulted from symmetry breaking of the ten-dimensional universe, the quantum tunneling from false vacuum state to true vacuum state, and the collapse of the six extra spatial dimensions to incredibly small sizes and the expansion of the four large space-time dimensions to an incredibly large size.



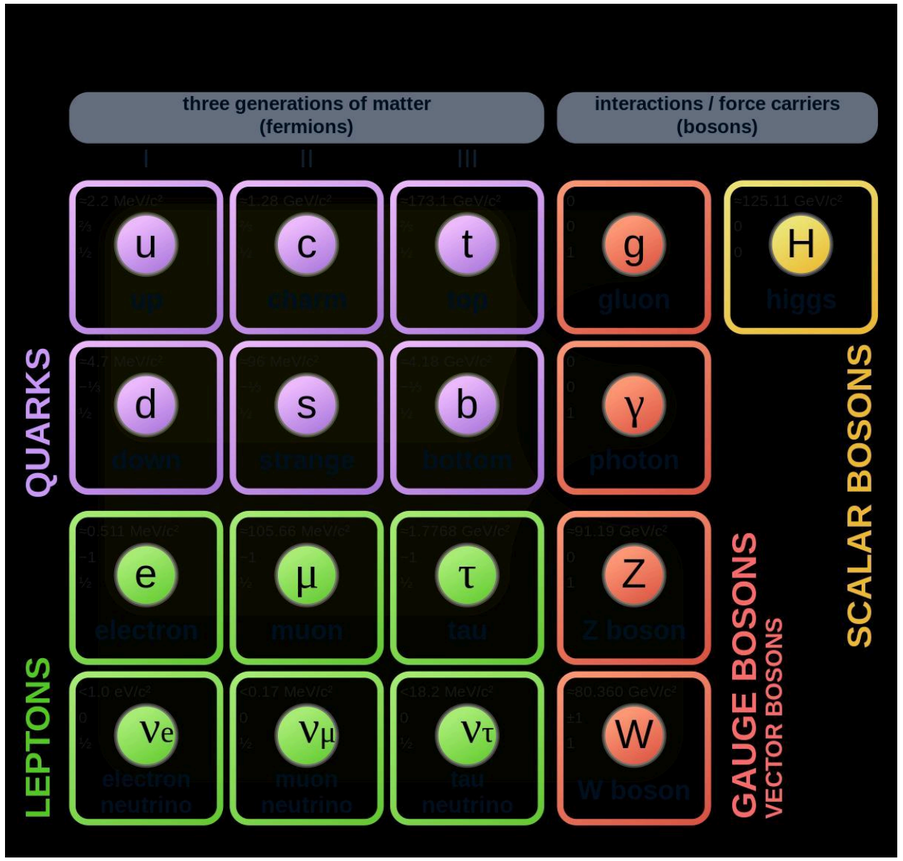
Likewise, this superstring theory suggests that all elementary particles of matter and energy are ultimately reducible to vibrating one-dimensional energetic superstrings moving and interacting in small extra spatial dimensions compacted into so-called Calabi-Yau manifolds, and the theory also suggests that there are other additional 10 dimensional membrane universes (perhaps infinitely many) existing beyond the observable universe in a so-called multiverse. Another multiverse model, recognizing the similarities between the cosmic singularity of the Big Bang and the gravitational singularities of black holes, argues that black holes, which are generated primarily from the gravitational collapse and supernova explosions of large stars, actually create new separate parallel universes, resulting in a multiverse of universes evolving and replicating from black holes and connected by wormholes. However, various other speculative theories of the multiverse exist that attempt to explain what caused the Big Bang itself without the need of a First Cause Conscious Creator God or Gods.



On the other hand, separate from the speculations of cosmology and physics, parapsychology and its study of near-death experiences seem to suggest that a conscious and superintelligent "Being of Light" or God of some kind, perhaps a higher dimensional spatial Being, may actually exist and may have created our universe and perhaps the multiverse as speculated by various religions and theologies. Naturally, the religions of mankind have had anthropomorphic, mythological, fictional, and culturally biased views of God due to the limitations of the human intellect and imagination. However, near-death experiences and the God-like Being of Light experienced in many of them could suggest that the many religions were correct that a God existed, even though they had imperfect and incomplete views of the nature of God and many different names and depictions for God. While a real God might exist as a higher dimensional being inhabiting higher spatial dimensions and membranes beyond the observable universe or could exist as a collective universal consciousness aware of all individual minds in the cosmos (as in the religion of pantheism that believes God is the entire Cosmos and as in the Wigner interpretation of quantum mechanics that argues a collective consciousness collapses the wave functions of elementary particles), God might also exist as the creator of the supercomputer simulation that the observable universe might actually be. If the computer scientists, physicists, and philosophers who believe the observable universe is actually a fake virtual world or computer simulation existing in an unknown higher reality (similar to simulated video games or dreams created in this world) are correct, then God would be the simulator of this matrix-like simulation and the Big Bang origin of the cosmos would be the beginning moment of the simulation.

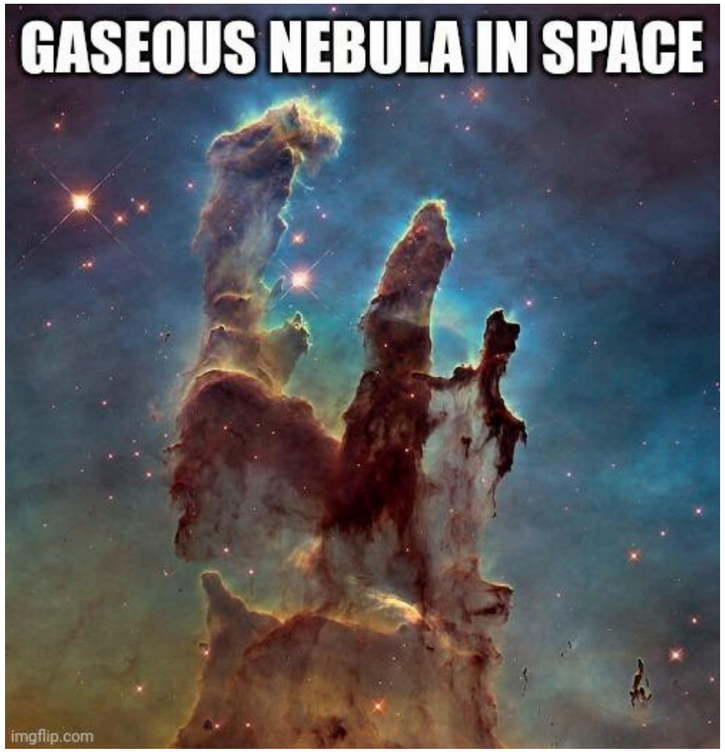


Regardless of God's existence or non-existence, whatever created the primordial particle or gravitational cosmic singularity at the beginning of time, it appears that something caused the early, tiny baby universe to inflate, expand, and explode, causing the division of the grand unified energy force (perhaps in the form of the superstring field in quantum gravity theory or the inflaton field in inflationary theory) into the four fundamental energy forces and their various quantum fields (described in the Standard Model of particle physics). While the Standard Model describes all electromagnetic and nuclear forms of matter and energy as being expressions of fundamental quantum fields, the general theory of relativity describes space and time as the four-dimensional field of gravity. Quantum gravity theories, like superstring theory, attempt to describe gravity as a quantum field of gravitons that are perhaps reducible to more elementary entities like superstrings. The four energy forces include gravity that attracts all forms of matter to each other depending on mass and distance and the warping of space-time by mass-energy, electromagnetism that attracts and repels charged particles and that governs the nature of radiation and light, and the strong and weak nuclear forces that govern the fusion and radioactive decay emission of nuclear subatomic particles. Following the Big Bang and division of the four fundamental physical forces, all the matter and energy available was released into the expanding and cooling space-time volume of the exponentially growing universe, time and space began, and a vast expansion of the universe began that continues to this day. The early universe was dominated by an incredibly hot plasma of elementary particles, including high energy photons of light, quarks that would eventually combine and form protons and neutrons, and free electrons. This Big Bang is believed to have occurred almost 14 billion years ago (or perhaps even longer ago in the primordial past as current astrophysics revises the current scientific understanding of the conditions of the early universe). As the universe exponentially grew in size, it is as if the once singular primordial particle divided itself into many kinds of particles of matter and energy, which annihilated, combined, separated, attracted, and repulsed with each other in the expanding void of outer space.



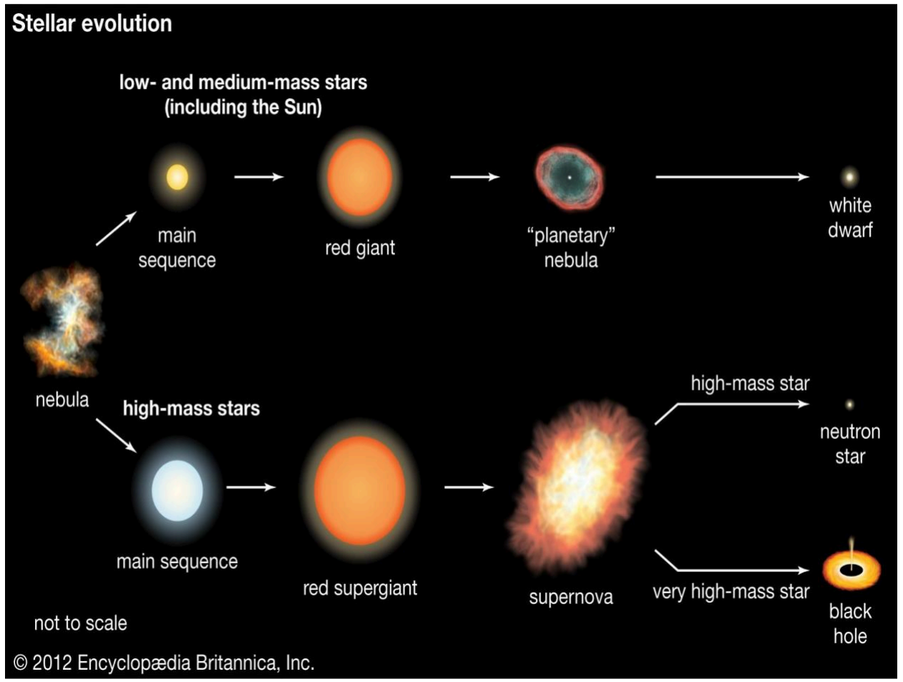
While elementary particles with mass form the subatomic particles that form atoms of matter, elementary particles of energy or force carriers are exchanged by matter particles and enable the motion and interaction of different forms of matter through the release of gravitational, electromagnetic, and nuclear energy. Likewise, matter and its oppositely charged form of antimatter interacted and annihilated each other, resulting in the release of huge quantities of energy and the domination of matter over antimatter in the universe. In addition to the familiar forms of matter and energy encompassed by the four fundamental forces of the universe, mysterious so-called dark matter provides more mass in the universe, while equally mysterious dark energy accelerates the expansion rate of the space-time volume of the universe. Although the exact nature of dark matter and dark energy are unknown, it appears

that they make up most of the mass and energy content of the universe, even more than the familiar forms of matter and energy affected by gravity, electromagnetism, and the strong and weak nuclear forces. Both matter and energy express themselves in the form of fundamental fields, particles, and waves, depending on experimental conditions, instruments, and observations. Due to this so-called wave-particle duality present in all elementary particles of matter and energy, there are various theories of fundamental consciousness and the multiverse (known as the Wigner interpretation and Many Worlds interpretation of quantum mechanics) debated in theoretical physics, contributing to philosophical debates about God, mind, and parallel universes and parallel doppelganger selves in academia. As a result of these high energy particle interactions, the first electrically neutral atoms, consisting of negatively charged electrons, positively charged protons, and eventually neutrons with no charge, were created. The now divided and distinct four fundamental forces of nature (gravity, electromagnetism, and the strong and weak nuclear forces) as well as the mysterious substances of dark matter and dark energy came into a balance of universal power and influence with each other. The four forces caused these different kinds of matter particles to interact with each other via gravitational, electromagnetic, and nuclear energy, resulting in attraction, repulsion, fusion, and emission of these constituents of the early universe.



These fundamental interactions between the elementary particles of matter and energy resulted in the first light chemical elements of predominantly hydrogen and helium, which formed the basis of the gaseous content of nebulae in outer space. As the universe continued to expand, it began to cool down from the extremely hot temperatures of its initial very dense state as the overall density of its matter content decreased while the volume of space-time increased. Many of these first atoms began to coalesce into vast clouds of cosmic gas, the first nebulae, which both united with one another through gravity and separated from one another due to the universal expansion of space-time. Thus, according to modern cosmology, while the cosmic singularity may have existed in a timeless state before the dawn of time at the Big Bang, the known observable universe has existed for nearly 14 billion years. With the formation of the gaseous nebular clouds of deep space comes the age of the nebulae, a relatively brief transition period before the formation of galaxies, stars, and planets.

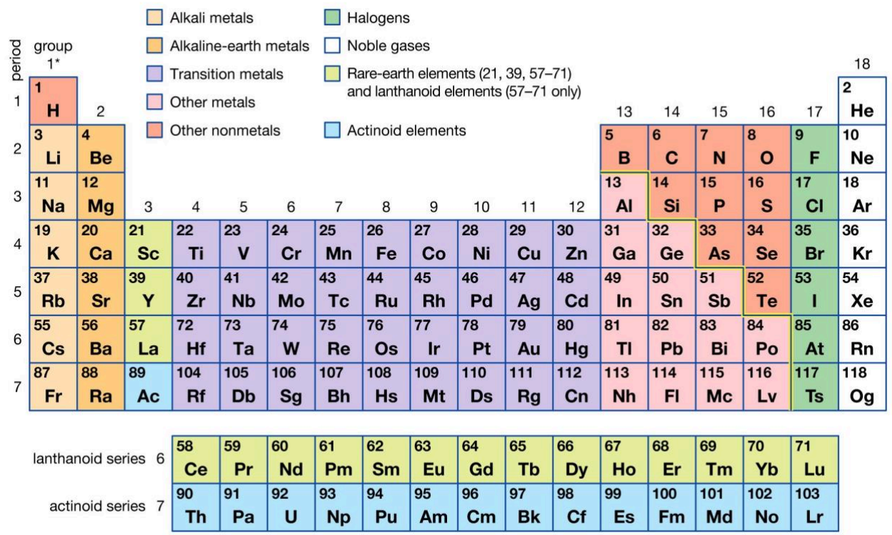
Next comes the age of the galaxies, stars, and planets the flaming and rocky orbs born from the concentration of the nebulae into more solid and plasma forms via the processes of gravitational collapse of the nebular clouds, stellar nuclear fusion of the light chemical elements of the gaseous nebulae, and violent material accretion. These important phase transitions of the four types of matter (plasma, gas, solid, and liquid) include those from loose elementary particles (especially quarks and electrons) to subatomic particles (protons with positive electric charge, electrons with negative electric charge, and neutrons with no electric charge) to atoms composed of subatomic particles to gaseous nebulae to superheated stars of plasma (many stars are born from gravitationally collapsed gaseous nebulae, many small and large stars experience several stages of stellar nuclear fusion to produce more complex chemical elements of the periodic table, and many large stars later die and explode as supernovae to forcefully produce and release new atoms and chemical elements with increasingly heavier atomic nuclei into outer space), and eventually to more chemically complex, molten, solid, gaseous, and liquid planets (often with dense and heavy metallic planetary cores that generate magnetic fields around the planets).



Gravity causes large quantities of matter to attract with each other, rotate around each other as matter and energy create warps in space-time, and form galaxies of black holes (black holes have such powerful gravitational fields that no matter or light radiation can escape falling into them once reaching their so-called event horizons) and stellar constellations, stars, and solar systems of planets. Electromagnetism enables the chemical elements and atoms to create more complex chemical compounds via electric attraction and repulsion and more complex material forms and enables the exchange of heat and light energy among material bodies to warm up the cooling expanding cosmos. The strong nuclear force holds together the nuclei of atoms and enables the stellar nuclear fusion of atomic nuclei to form heavier chemical elements, resulting in the eventual production of all the elements in the periodic table up to radioactive uranium due to stellar explosive supernovae and the conversion of matter into energy. Finally, the weak nuclear force results in the breakdown and radioactive decay of

heavy atomic nuclei, resulting in the heavy complex chemical elements returning to the simpler chemical elements of the periodic table and the release of radioactive energy.

Periodic table of the elements


Alkali metals
Alkaline-earth metals
Transition metals
Other metals
Other nonmetals
Halogens
Noble gases
Rare-earth elements (21, 39, 57–71) and lanthanoid elements (57–71 only)
Actinoid elements
period
group
1*
18
1 H 2 He
2 Li Be B C N O F Ne
3 Na Mg 3 4 5 6 7 8 9 10 11 12 Al Si P S Cl Ar
4 K Ca Sc Ti V Cr Mn Fe Co Ni Cu Zn Ga Ge As Se Br Kr
5 Rb Sr Y Zr Nb Mo Tc Ru Rh Pd Ag Cd In Sn Sb Te I Xe
6 Cs Ba La Hf Ta W Re Os Ir Pt Au Hg Tl Pb Bi Po At Rn
7 Fr Ra Ac Rf Db Sg Bh Hs Mt Ds Rg Cn Nh Fl Mc Lv Ts Og
lanthanoid series 6 Ce Pr Nd Pm Sm Eu Gd Tb Dy Ho Er Tm Yb Lu
actinoid series 7 Th Pa U Np Pu Am Cm Bk Cf Es Fm Md No Lr

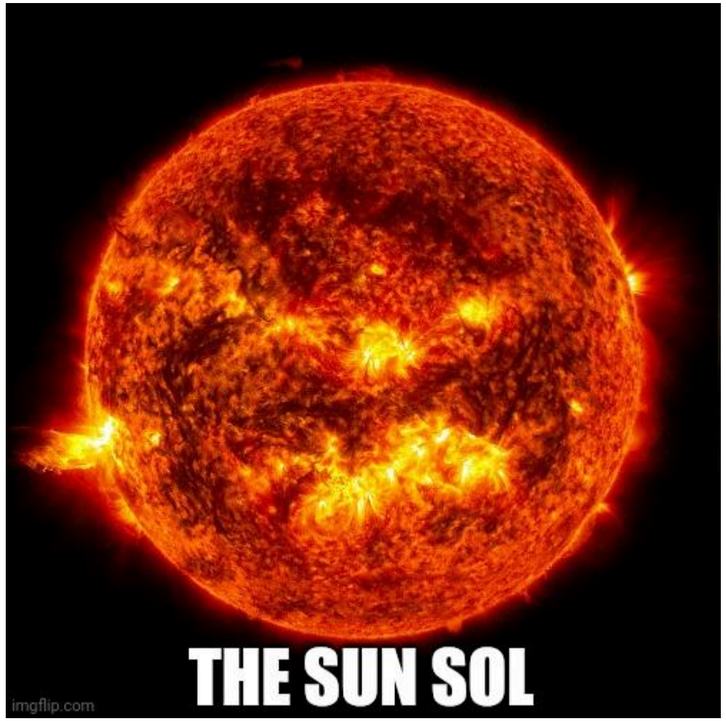
*Numbering system adopted by the International Union of Pure and Applied Chemistry (IUPAC). © Encyclopædia Britannica, Inc.

As these new stars, planets and nebulae continue to join together under the force of gravity, the first galaxies, those island universes of billions of celestial objects (including nebulae, stars, planets, black holes, comets, moons, asteroids, atoms, elementary particles, and life forms), are created. Eventually, the spiral Milky Way galaxy, filled with many stars orbiting a central supermassive black hole, forms within a larger cluster of gravitationally bound together galaxies. The new forming planets, often much smaller than their larger nearby stars, are attracted to them by gravity and begin rotating around the new forming stars to create the first solar systems. This Stelliferous age of galaxies, stars, and planets, which continues to the present day, is several billion years longer than the ages of organic life that eventually follow it, which is a reminder that life in all its forms, up to and including human beings, is relatively new and insignificant in the grand cosmic scheme of things.

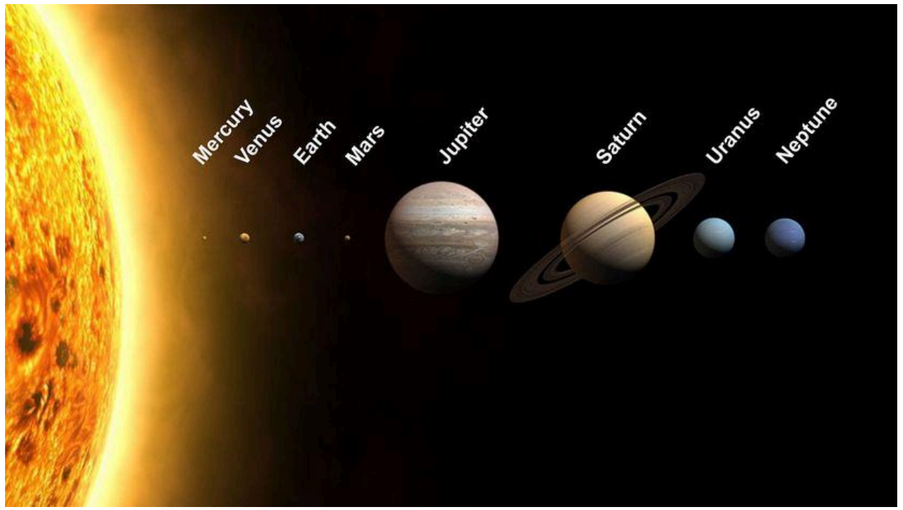
Before the formation of cellular life composed of self-replicating organic molecules like deoxyribonucleic acid (DNA), this is an age of presumably lifeless and unconscious matter shaping itself into new exotic forms and ultimately preparing the way for life and consciousness. It is interesting to speculate if such structures as nebulae, galaxies, stars, and planets (and perhaps even atoms), can be considered somehow alive and conscious as if there were cosmic superorganisms, but it appears that Life as currently understood does two important things that mere matter does not do which are eating and breeding, as well as thinking for the relatively few self-conscious earthling life forms. Living beings appear to be a unique combination of the physical processes of metabolism, reproduction, variation, adaptation, and evolution by natural selection (as well as consciousness as an emergent property of nervous systems for some life forms), which are present to a lesser and less harmonious degree in non-living things. Likewise, for those who reject materialist monism and embrace dualism of matter and mind in philosophical metaphysics, some life forms are uniquely able to contain immaterial minds, spirits, and self-consciousness. Thus, while animism and the human imagination might regard these celestial bodies as somehow alive and with the power of gods, traditional materialist science regards them as the various forms of unconscious matter, moving and acting according

to purely mechanical laws governing matter and energy interactions within time and space, metaphorical laws or uniform physical processes that began controlling and determining nature after the Big Bang. However, according to the philosophical view of panpsychism, all forms of matter have varying levels of consciousness, making it possible that these various forms of matter are conscious in different respects than earthling living organisms are conscious but nevertheless somehow partially aware of their environments at different degrees and levels according to their material complexity.

Due to the sheer number of galaxies, stars, and worlds numbering several hundred billion in the observable universe, it is likely that not long after the formation of the first solar systems, alien extraterrestrial life forms, some more advanced and some less advanced than modern humans, originated and evolved on planets orbiting countless stars, long before the formation of earth and the evolution of life and humanity on this planet. Similar to the rise and fall of species and societies on earth, it is very likely that countless extraterrestrial species across the innumerable galaxies of the universe rose from chemical evolution, were born, lived, died, reproduced, and eventually fell into extinction with or without leaving behind evolutionary descendants. However, current humans do not yet have definitive public evidence of extraterrestrial life, especially since phenomena and militarily classified things like unidentified flying objects (UFOs) or unidentified aerial phenomena (UAP), as well as alien abductions, are highly disputed by people in pop culture, ufology, science, and national security politics. Although it is unknown what these ancient aliens may have looked like (if they even existed in the first place), supposed alien abduction accounts, studied in parapsychology and ufology but often dismissed by academic skeptics due to limited physical evidence, frequently describe various humanoid alien species, including greys (humanoid aliens with small childish bodies, large heads, grey skin, large almond shaped eyes, and telepathic communicative abilities), reptilians (large humanoid aliens resembling bipedal reptiles), insectalins (tall insect-like aliens resembling praying mantises), so-called Nordic aliens (human-looking aliens with pale skin, light colored hair and eyes, and common features of physical strength, beauty, and symmetry), and even most controversially human-alien hybrids (psychic hybrids combining alien and human features through genetic engineering). If these supposedly real alien species and their advanced UFOs really exist, it is unknown how ancient they could be in comparison to humanity. Likewise, such mysterious alien beings could be purely fictional and psychological (only existing in the imaginations, minds, and folklore of people as assumed by most regular psychologists) or they could be real extraterrestrials (aliens originating from other solar systems in the observable universe), extratempestrials (time travelers originating from the distant past or far future), interdimensionals (beings originating from parallel universes or high dimensional spatial membranes of the multiverse beyond the observable universe), spiritual beings (beings originating from realms of consciousness experienced by people during altered states of consciousness like meditative or psychedelic states of mind induced naturally or artificially with mind-altering drugs), cryptids (earthling non-human intelligent beings possibly originating or inhabiting undiscovered parts of the world and its oceans, as suggested in accounts of USOs or underwater unidentified submerged objects), artificial intelligence (robot or cyborg entities with artificial intelligence superior to human collective intelligence and with unknown origins), or even most controversially supercomputer simulators (the god-like creators of the possible matrix-like fake world and supercomputer simulation that the observable universe might actually be).



After this extremely long duration of lifeless and alien life-filled planets and stars comes the next stage of this cosmic story, the birth of earth's solar system. With the birth of the sun Sol and its planets from past nebulae and supernovae and from the physical processes of gravitational collapse, nuclear fusion, and material collision and accretion, the familiar nine planets (namely the four rocky inner planets of Mercury, Venus, Earth, and Mars as well as the four outer gas giants of Jupiter, Saturn, Uranus, and Neptune, plus the ninth dwarf planet Pluto, along with their many accompanying moons, comets, meteors, and asteroids) come into existence and revolve around the sun at varying distances. As the name solar system implies, these nine various planets all circle around and depend upon the heat and light of the sun Sol, the central yellow dwarf star, which is much larger than all of them but is also much smaller than many of the giant stars and black holes of the cosmos. In this age, the primordial planets are still forming and colliding as they circle endlessly around the sun, slowly but surely developing the many unique features they have today.



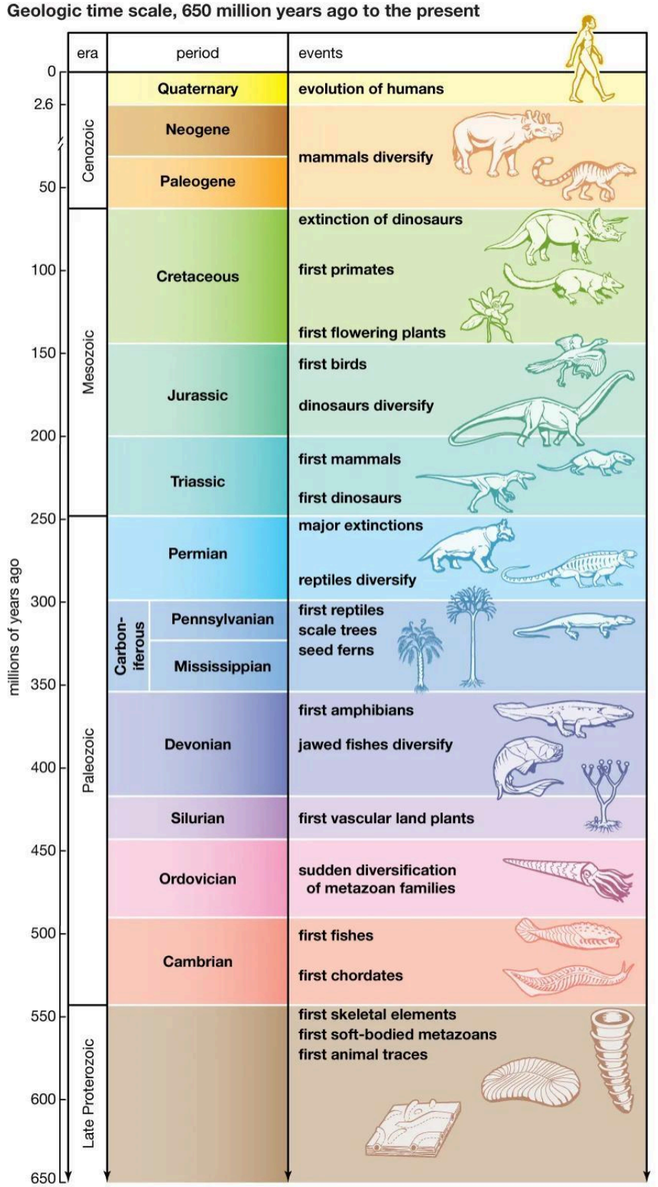
The Earth is believed to have formed about four to five billion years ago and is one of the younger worlds of the local solar system. Relatively shortly after the formation of the solar system, the young earth may have collided with another proto-planet, Theia. The resulting apocalyptic collision split the world in two with the larger portion forming into the earth and the smaller portion becoming the moon that would henceforth revolve around the world.

On the lifeless earth, the heavy chemical elements sink into and form the molten core, while the lighter chemical elements form the solid crust and gaseous atmosphere of the early inhospitable baby planet. The burning planetary core, volcanic magma and lava, falling meteorites, and toxic smoke rule the forming hellish planet until after vast eons of hundreds of millions of years, the lava cools and solidifies into various rocks to form dry land, clouds form from the release of volcanic water vapor and additional water within clouds is brought to the world by falling meteors and comets full of ice, and then rainfall and the water cycle (including the evaporation, condensation, and precipitation of gaseous, solid, and liquid water) finally begin. The horrific prehistoric storms and vast ages of rainfall create the first oceans, setting the stage for the next age of the first living things believed to have originated around 3 to 4 billion years ago, which is relatively shortly after the formation of planet Earth itself 4 to 5 billion years ago. In parallel with the formation of the oceans from the water cycle and from the formation and melting of glaciers due to temperature variations around the world, plate tectonics and the process of continental drift result in supercontinents of dry land breaking apart and forming together like the pieces of a planetary jigsaw puzzle, eventually creating the supercontinent of Pangea (originating around 300 million years ago) that eventually breaks apart for several hundred million years into the seven modern continents of the world (North America, South America, Asia, Africa, Europe, Australia, and Antarctica).

After complex processes of chemical evolution within the oceans that enabled the creation of self-replicating molecules like RNA and DNA encased within protective cellular barriers, the first earthling life forms capable of metabolism, reproduction, variation, adaptation, and evolution, originated. Unlike the first cellular life forms, the first ancient viruses, existing along the thin border separating life and non-life, also originated by self-replicating molecules and nucleic acids, but they were incapable of independent replication and acted as parasites on other living organisms as modern viruses do today. If they did not fully or completely originate within the oceans of the world, both the first life forms and viruses may have originated in outer space and may have been brought to earth via icy meteors or comets in a process known as panspermia.

A more controversial theory suggests gods or aliens may have designed, used spacecraft, and brought simple extraterrestrial life to primordial earth in a process known as directed panspermia (just as astronauts who visited the moon in the 20th century likely brought bacteria and viruses to it). Thus, earthly life could have a terrestrial or extraterrestrial origin as well as a naturally evolved or intelligently designed origin. Regardless of its origin via abiogenesis or panspermia, all current life on earth evolved from a single common universal ancestor with DNA as its genetic code and originating almost 4 billion years ago. The first earthling living beings were probably underwater single-celled prokaryotic cells with free floating nucleic acids and without a central nucleus that evolved via biological parasitism and symbiosis into eukaryotic cells with internal organelles and nucleic acids housed in a protective central nucleus over the next three billion years. Therefore, for several billion years, most life forms were microscopic and underwater, although they did form larger colonies eventually. Thus, modern cosmology and evolutionary biology present a picture of the immensity of space and time within which the little drama of life and humanity takes place (a reminder that the universe is for all practical purposes infinite in both time and space and that people have yet to publicly detect alien life anywhere within the seemingly endless cosmos).

Geologic time scale, 650 million years ago to the present



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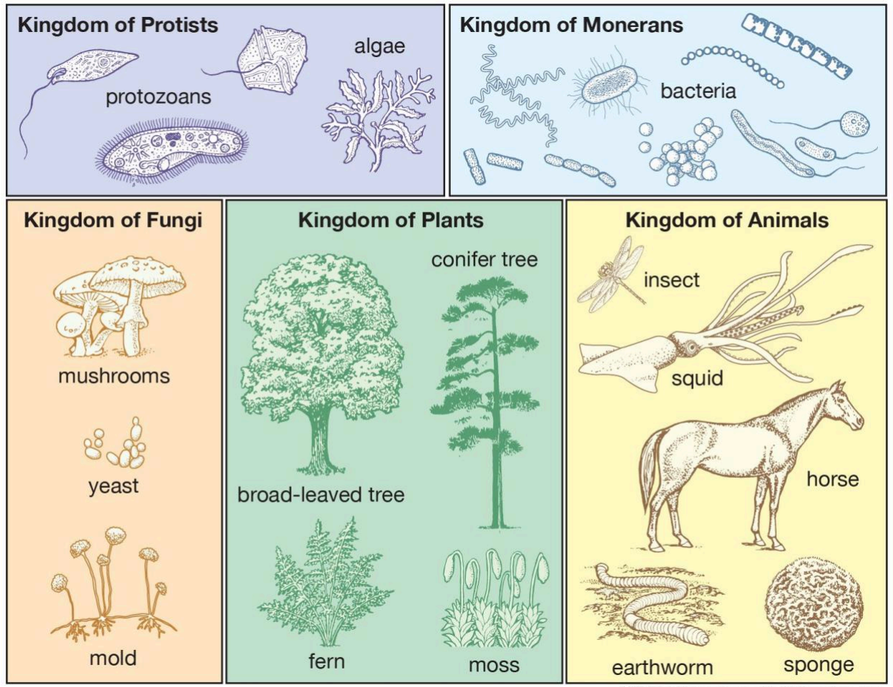
Because water is precious and necessary for all life due to its ability to facilitate complex chemical reactions, life is born and evolves from simplicity to complexity in the waters, presumably from simple non-living molecular structures into single cell microbes and then into multicellular creatures with soft bodies and without bones, scales, or hard shells like primitive worms and jellyfish within the last several hundred million years. This is the so-called Cambrian explosion of prehistoric, macroscopic, multicellular, eukaryotic, underwater plants and animals, which occurred about 530 million years ago.



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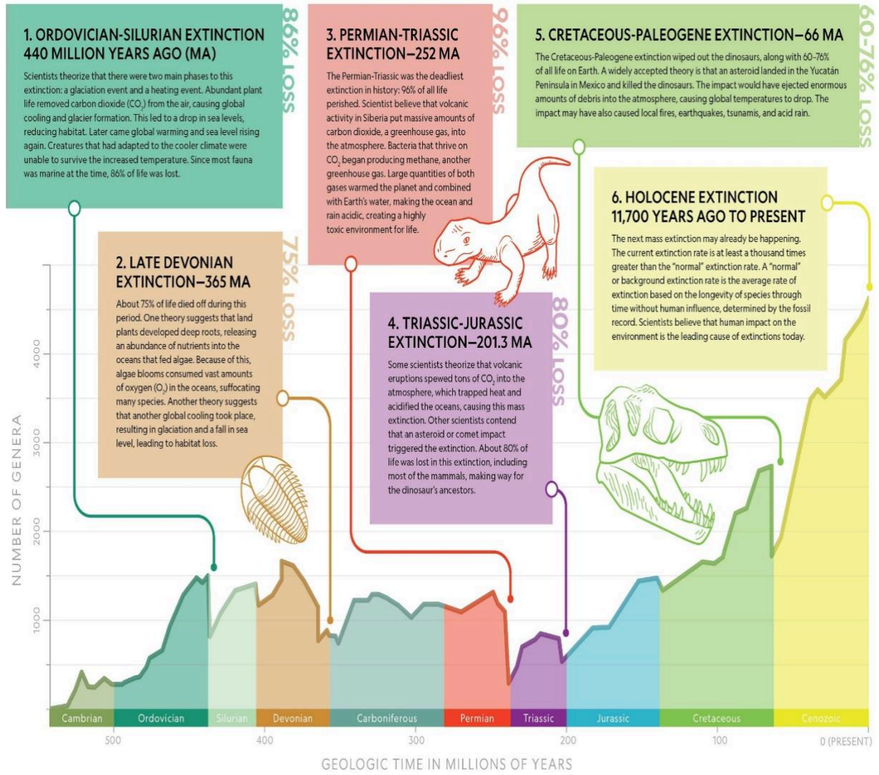
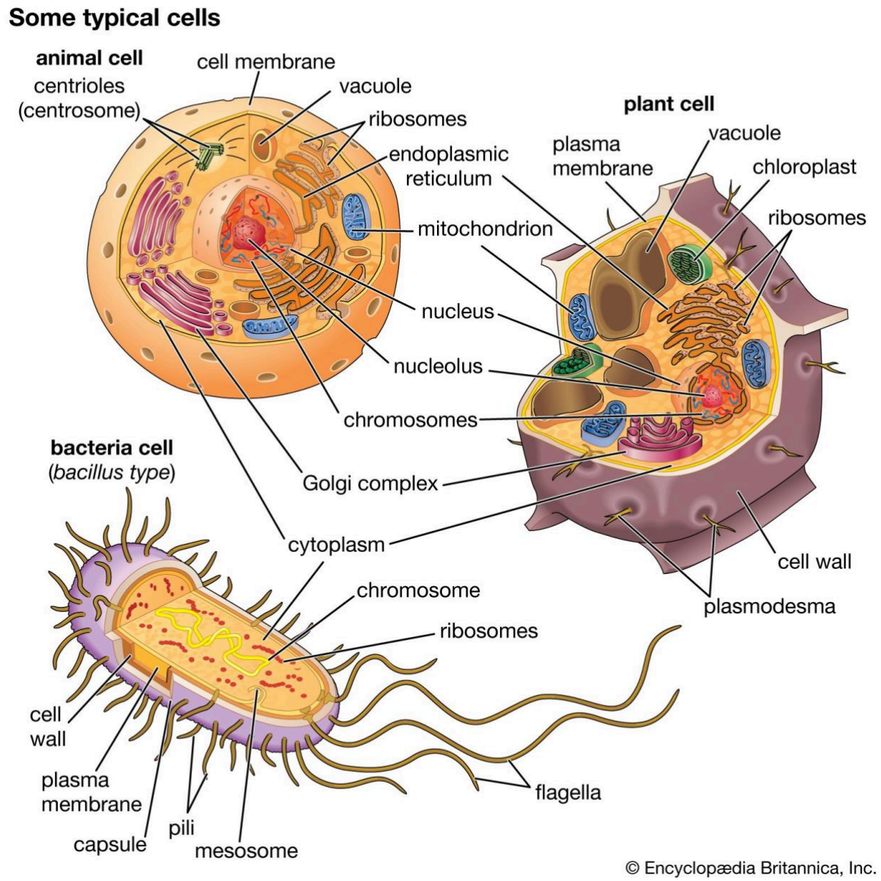
As hundreds of millions of years pass by, life soon becomes divided into the familiar kingdoms and species of today, including bacteria, protozoa, fungi, plants, animals (including insects), and viruses. While viruses thrive as parasites hijacking the cellular reproduction of living organisms, some life forms thrive as decomposers living off the dead for energy, while others thrive on sunlight and photosynthesis for energy, and still others survive by consuming other life forms for energy (resulting in the food chain, prey and predator relationship, circle of life and death, and the origin of plant-eating herbivores, meat-eating carnivores, and omnivores eating diverse diets of plants, fungi, and animals). Despite countless species feeding on each other for survival, it is possible that the entire biosphere of earth itself has transformed the planet into a single superorganism known as Gaia that has now achieved some level of self-consciousness through the human creation of the Internet and perhaps some level if self-reproduction through the human creation of spacecraft for space travel to spread earthling life to other worlds in the cosmos. Perhaps the purpose of life is to spread life, consciousness, sensory perception, happiness, and suffering across the many lifeless, unconscious, senseless, and emotionally empty places of the universe. Because of the need for protection against the elements, these soft-bodied ancient ancestors of modern animal life eventually develop bones, teeth, scales, and hard shells, allowing themselves to fight one another and to protect themselves from the raging tidal zones of the first oceans. As the first animals appear and evolve so too do the plants begin their origin and evolution in the waters until both life forms are ready to move onto dry land. Here begins the Darwinian account of the evolution of macroscopic life, explaining how genetic variations in organism reproduction, climatic and geological environmental changes in ecosystems, processes of adaptation to their environments by species, and natural selection of species' behaviors and characteristics compatible for survival within certain habitats, cause the first aquatic animal and plant ancestors to evolve into the countless species of land dwelling living things existing today.


MASS EXTINCTIONS
A mass extinction is a sharp spike in the rate of extinction of species caused by a catastrophic event or rapid environmental change. Scientists have been able to identify five mass extinctions in Earth's history, each of which led to a loss of more than 75 percent of animal species.
NATIONAL GEOGRAPHIC
1. ORDOVICIAN-SILURIAN EXTINCTION 440 MILLION YEARS AGO (MA)
Scientists theorize that there were two main phases to this extinction: a glaciation event and a heating event. Abundant plant life removed carbon dioxide (CO_2) from the air, causing global cooling and glacier formation. This led to a drop in sea levels, reducing habitat. Later came global warming and sea level rising again. Creatures that had adapted to the cooler climate were unable to survive the increased temperature. Since most fauna was marine at the time, 86% of life was lost.
86% LOSS
2. LATE DEVONIAN EXTINCTION–365 MA
About 75% of life died off during this period. One theory suggests that land plants developed deep roots, releasing an abundance of nutrients into the oceans that fed algae. Because of this, algae blooms consumed vast amounts of oxygen (O_2) in the oceans, suffocating many species. Another theory suggests that another global cooling took place, resulting in glaciation and a fall in sea level, leading to habitat loss.
75% LOSS
3. PERMIAN-TRIASSIC EXTINCTION–252 MA
The Permian-Triassic was the deadliest extinction in history: 96% of all life perished. Scientist believe that volcanic activity in Siberia put massive amounts of carbon dioxide, a greenhouse gas, into the atmosphere. Bacteria that thrive on CO_2 began producing methane, another greenhouse gas. Large quantities of both gases warmed the planet and combined with Earth's water, making the ocean and rain acidic, creating a highly toxic environment for life.
96% LOSS
4. TRIASSIC-JURASSIC EXTINCTION–201.3 MA
Some scientists theorize that volcanic eruptions spewed tons of CO_2 into the atmosphere, which trapped heat and acidified the oceans, causing this mass extinction. Other scientists contend that an asteroid or comet impact triggered the extinction. About 80% of life was lost in this extinction, including most of the mammals, making way for the dinosaur's ancestors.
80% LOSS
5. CRETACEOUS-PALEOGENE EXTINCTION–66 MA
The Cretaceous-Paleogene extinction wiped out the dinosaurs, along with 60-76% of all life on Earth. A widely accepted theory is that an asteroid landed in the Yucatán Peninsula in Mexico and killed the dinosaurs. The impact would have ejected enormous amounts of debris into the atmosphere, causing global temperatures to drop. The impact may have also caused local fires, earthquakes, tsunamis, and acid rain.
60-76% LOSS
6. HOLOCENE EXTINCTION 11,700 YEARS AGO TO PRESENT
The next mass extinction may already be happening. The current extinction rate is at least a thousand times greater than the "normal" extinction rate. A "normal" or background extinction rate is the average rate of extinction based on the longevity of species through time without human influence, determined by the fossil record. Scientists believe that human impact on the environment is the leading cause of extinctions today.
NUMBER OF GENERA
4000
3000
2000
1000
Cambrian
Ordovician
Silurian
Devonian
Carboniferous
Permian
Triassic
Jurassic
Cretaceous
Cenozoic
500
400
300
200
100
0 (PRESENT)
GEOLOGIC TIME IN MILLIONS OF YEARS

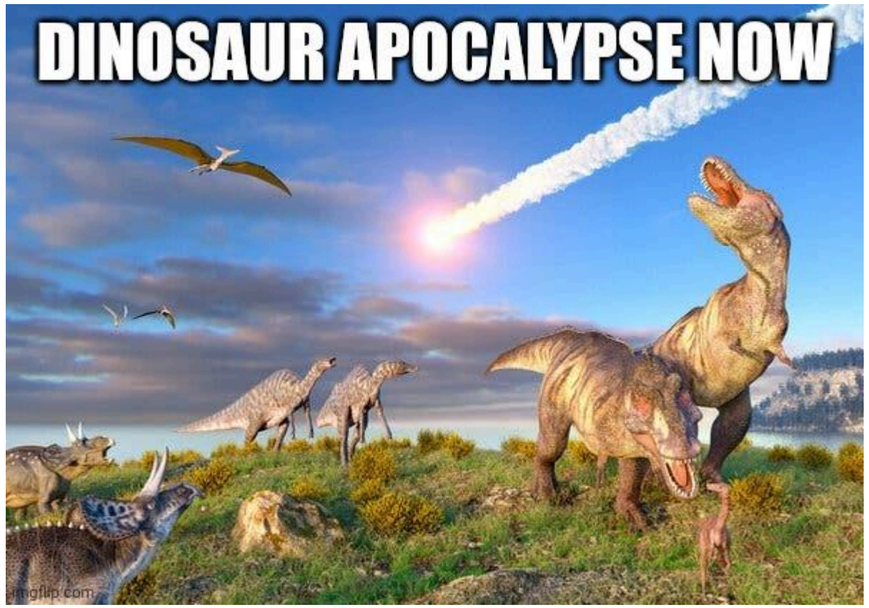
Despite the evolutionary progress of life from simplicity to complexity in organic material structures, sense organs and nervous systems, and levels of consciousness and self-awareness, there are still many setbacks to progress, especially during mass extinctions, often due to climatic, astronomical, geological, or resource depletion events out of biological control that wipe out billions of life forms and species. While there have been five major mass extinction events in the history of earthling life, the worst extinction event was the Permian extinction event that had a primary cause of volcanic activity and occurred about 250 million years ago; the most recent extinction event was the Cretaceous extinction event that had a primary cause of an asteroid collision with earth and occurred about 65 million years ago; and a global

thermonuclear war in the current Anthropocene era of the 21st century could be the climax of another sixth global extinction event caused by humans.

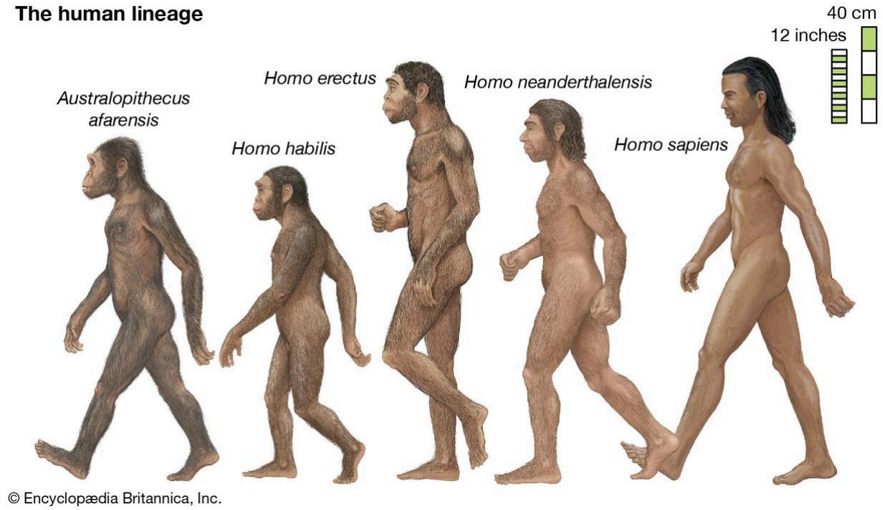


The development of bones, shells, scales, and teeth leads to the next stage of organic evolution, the age of the fishes, in which primitive fishes rule the seas for a very long time, breeding, fighting, cooperating, evolving, reproducing, and dying in the waters but never moving

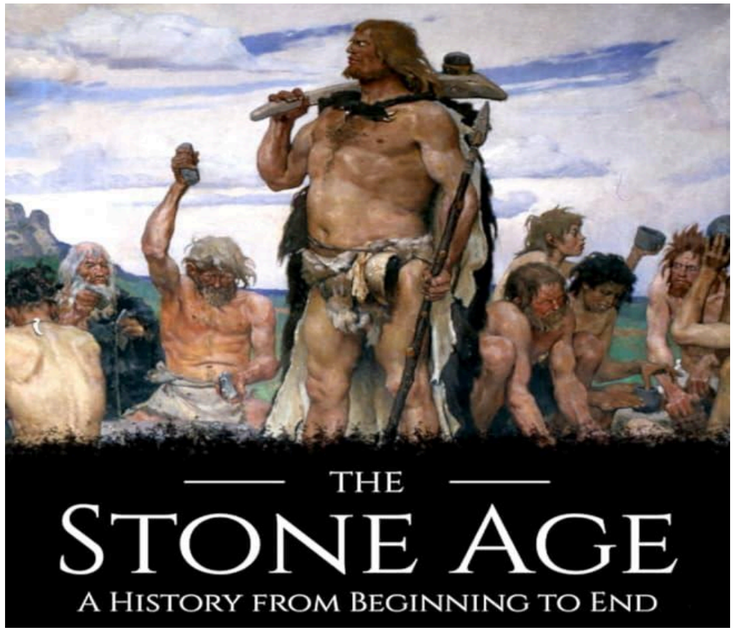
onto dry land. The fishes only lay eggs in water to reproduce their kind, limiting their young to the seas for the rest of their lives. The achievement of moving onto dry land demonstrates the growing powers of Life, which ruled the liquid elements of the waters for a long time and finally became ready to rule the solid rocky elements of dry land. The age of amphibians then follows as many of these fish evolve into amphibians capable of laying their eggs in water but then developing into semi-aquatic creatures capable of living above and outside but still nearby the waters after their births, returning to the waters to lay their jelly-like eggs as the modern amphibians like frogs still do. During this Carboniferous amphibian age, many coal deposits were formed from ancient dead plants, which would become one of the fossil fuel energy sources of industrialization during the current Anthropocene period of human history.



The age of the amphibians is an important transition to the next age, the age of the reptiles, in which the amphibians evolve into reptiles, which are creatures retaining all water within their bodies for moisture and returning to the waters to drink for hydration and capable of laying their eggs protected by hardened shells on dry land. Thus, with the first reptiles, life invades dry land. As the evolution of plants leads to the development of hard seeds capable of growing on dry land, the plants and animals invade the land together, allowing the animals to have plenty of plant food outside the waters. This age of the reptiles becomes most famous in history for the evolution of the dinosaurs, those majestic, frightening, gigantic reptilian monsters, feeding on plants and each other for countless eons on dry land. The pterosaurs, which were ancient reptiles contemporary with but distinct from the dinosaurs, develop wings and learn flight, causing life to invade the air and marking the new achievement of Life ruling the gaseous winds of the atmosphere and partially leaving dry land into the skies. The dinosaurs, which are now nothing but fossils (excluding still existing birds that are sometimes categorized as the only living descendants of the dinosaurs), ruled the world for ages much longer than the brief rule of mankind, many millions of years longer. However, as the world faced a mass extinction event due to the impact of an asteroid from deep space, these dinosaurs and many other primitive reptiles reached the limits of their adaptations until they went extinct.



The most important evolutionary adaptations for some primitive reptiles included the development of feathers and fur used for keeping the body warm. The prehistoric reptiles evolve into primitive birds and mammals. Thus, comes the origins and beginning of the age of the birds and mammals. The birds eventually learn to fly with their feathers and wings, eventually becoming the best natural flyers in history (excluding later humans in their artificial supersonic jets) and marking the growing powers of life in the air. Although some mammals like later bats also develop natural flight, most mammals, unlike most birds, remain confined to dry land. However, these furry mammals will eventually lead directly to mankind, making their fur and hair adaptations to cold much more important in the evolution of life and consciousness than the feathers and wings of the birds. Another noteworthy difference between the birds and mammals is that the birds still lay shelled eggs like reptiles, while the mammals retain their eggs or embryos within their bodies, allowing them to give birth to the living young immediately into the outside world of dry land and allowing them to become very closely bonded with and protective of their offspring. Therefore, the mammals begin to teach their young how to survive in the world since they are so close to their offspring, foreshadowing the development of culture and tradition that humans will establish in the far future of this prehistoric era. The age of the mammals and birds lasts a long time and continues to the present day, but it is still much shorter than the age of the reptiles, even though it is still also more important since it leads to the evolution of the most intelligent and most destructive species of Life, namely mankind. Eventually, several species of mammals, the primates, evolve from tree-climbing tailed monkeys to tailless ground apes walking on all fours and finally into erect bipedal ape-men, using primitive tools with their freed hands to hunt their prey. This age of the primates, lasting many millions of years less than the preceding age of the reptiles and the age of the mammals, then leads directly to the dawn of the age of humanity.

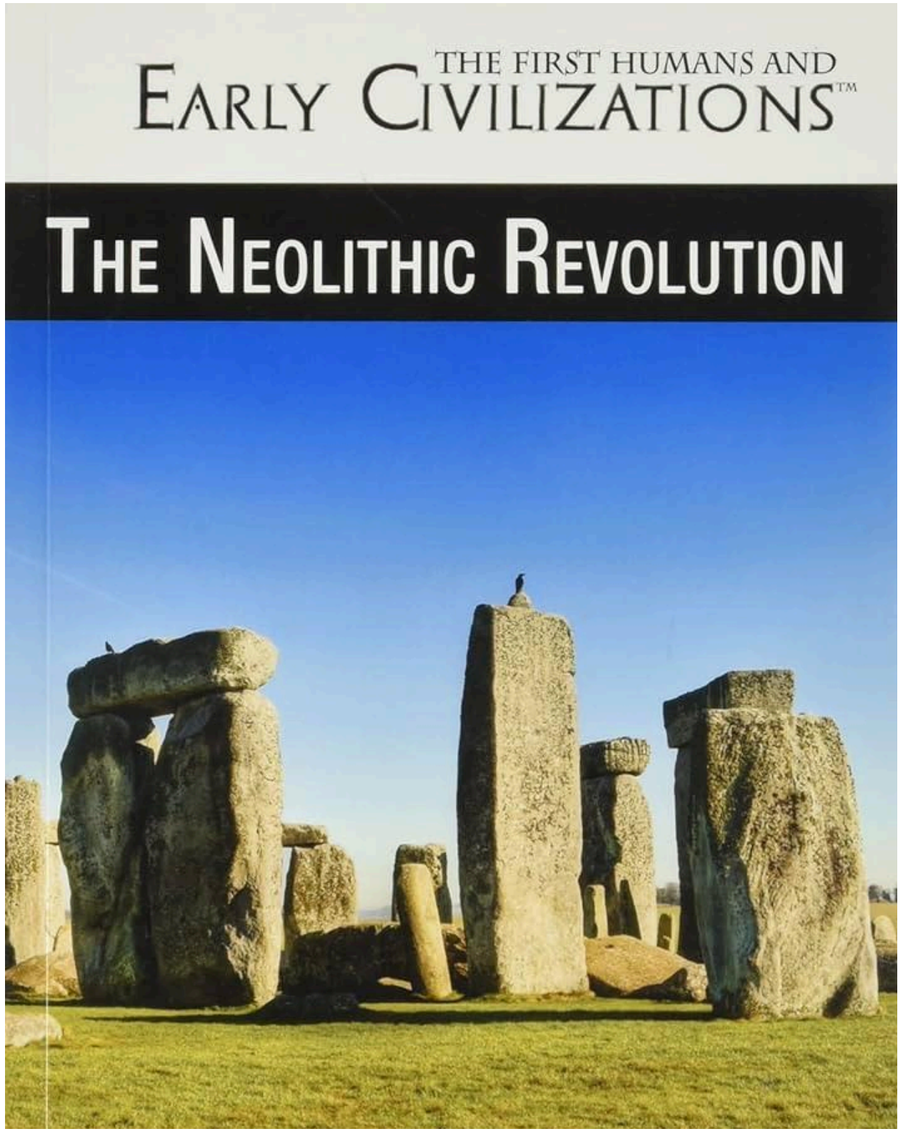


On the ancient prehistoric African continent, the earliest ancestors of mankind are believed to have evolved from primitive ground apes into erect bipedal ape-men or hominins around three to four million years ago. The human species, known as *Homo sapiens*, has existed as a separate erect bipedal primate species for only the last 300,000 years. Prior to the cold climatic changes that recently resulted in the ice glacial ages that ended about 10,000 years ago, two species of humans, the Neanderthals and the first true men of *Homo sapiens*, had competed for dominance of dry land and its food resources, eventually leading to the victory of the ancestors of all current humans and the extinction of the more primitive Neanderthal cavemen (despite the possibility of some inter-breeding and genetic mixture between the two humanoid species of *Homo sapiens* and Neanderthals). Mankind adapts to the global cold, migrates across the different continents, and continues to evolve due to diverse climatic conditions of various continental environments into separate but still inter-breeding races of the same species (including mainly light-skinned Europeans, mainly dark-skinned Africans, Oriental Asians, Hispanic Americans, Middle Easterners, etc., of the Stone Age) and to differentiate itself from the rest of the mainly non-bipedal apes (like the chimpanzees, orangutans, bonobos, and gorillas).Humanity develops primitive wood, bone, and stone weaponry. Humans also use animal furs as clothing and tents, hunt wildlife and scavenge for other animal and plant food,

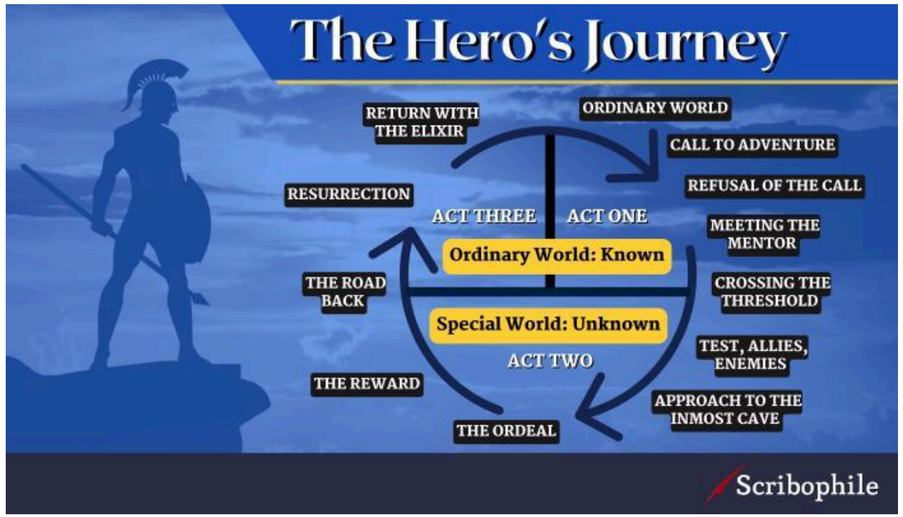
wander like nomads across the continents, and discover the ability to control fire for cooking, warmth in the cold, and other technological uses. Paleolithic humans of the Old Stone Age also develop religions of anthropomorphic animism (in which human-like spirits and gods exist in all of nature, including other life forms, natural bodies, and inanimate objects), anthropomorphic polytheism (in which many human-like gods and spirits create the world and everything in it and exist with different roles and functions in the supernatural order of the world), and magic witch doctors or shamans (those peculiar wise men and women interpreting dreams and natural omens and sharing the first myths about the world as the first priests). Humans battle each day against the wild beasts, the natural elements, and each other for survival. For now, mankind is still confined to dry land and has only a slight advantage in tools and language over the other animals. However, as human communities multiply and diversify, some of the hunting and gathering nomads begin to settle down, mainly by large water bodies to begin the first farming of crops, the first domestication of animal livestock (wolves had already been domesticated and trained as the first dogs by the hunters of the Old Stone Age), and the first construction projects of clay, wood, and stone homes and towns distinct from earlier nomadic tribal tents. The farming communities then develop more socially complex but not necessarily happier ways of life than the hunting and gathering nomads, including complex trade of necessary and luxury goods, better tools and weapons of stone and eventually metal, more submissive animal livestock and pets, more complex forms of symbolic language and art than the previously more limited language and cave paintings, and finally, large farms and slaughterhouses full of crops and livestock as well as large cities full of many hierarchical social classes.

The transition from hunting and gathering and foraging in the Old Stone Age of the Paleolithic era to farming, horticulture, and agriculture in the New Stone Age of the Neolithic era or Agrarian Era is a crucial turning point in human history. While most of the three hundred thousand years of human history encompassed the Paleolithic era, the Neolithic era of ancient agrarian civilizations began only within the past 10,000 years. Humans of the Old Stone Age used technology and their increased powers of consciousness to exploit plants and animals as energy resources to a greater extent than any other animal in known history, which enabled them to increase their populations and range of habitats across many parts of the world (it is unknown if a non-human intelligent civilization existed in the ancient geological past of earth before the evolution of humans but if one or several hypothetical non-human civilizations did exist then they likely collapsed long before the birth of human civilization and have left no definitive evidence in the fossil record). Humans of the Agrarian Era used even better technology and their increased powers of consciousness to more intensely exploit plants and animals and fellow lower class humans as energy resources and to transform the natural environments of the world into the artificial environments of civilization, leading to increased populations and habitats for humans. In the later Industrial era of the past few centuries, humans have become so good at exploiting natural food resources and fellow

lower class humans and machines and their powers of consciousness have increased so much that they have overpopulated most of the planet, expanded their technology and habitats into outer space, and created machines harnessing fossil fuels and becoming artificially intelligent. While prehistoric cavemen mastered the solid elements of dry land with their grand migrations across the continents, historic farmers and naval seamen mastered both dry land and the liquid elements of the waters as they began to travel the seas. Later, industrial humans and their machines mastered the gaseous elements of the air with their flying machines and began to master the plasma elements with their nuclear fusion weapons. In the far future, the evolutionary descendants of humans may eventually further master plasma as they might use outer space technologies to exploit entire stars as energy resources and may eventually master space and time travel in the cosmos (and perhaps even hyperspace travel in the parallel universe and higher spatial dimensions of the multiverse) if these hypothetical post-humans and their technology can survive extinction long enough into the far future. Of course, it is possible that alien beings of non-human intelligence with highly advanced technology of non-human origin have already developed and evolved enough to become master space travelers, time travelers, and hyperspace travelers. While this cosmic epic of life and death has narrowed its focus onto human history, it is likely that many elements, patterns, and themes in the human story have been repeated or paralleled in the countless histories of hypothetical intelligent extraterrestrial species and civilizations across the cosmos (which makes the human aspect of the cosmic story significant on universal scales).



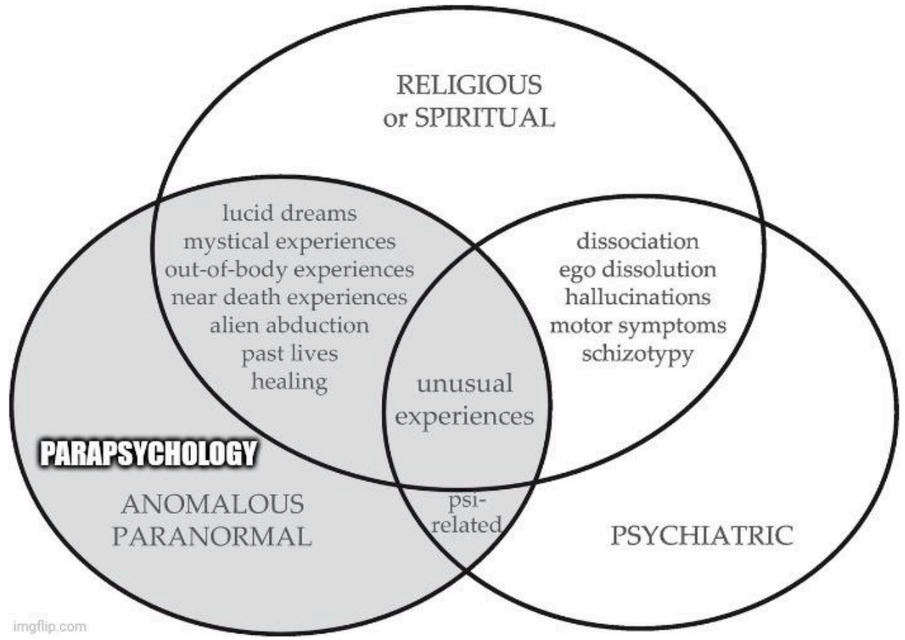
Returning to the Agrarian Era prior to the Industrial Revolution, only certain social insects like later ants and bees would become socially complex like human agrarian societies with their divisions of labor roles and their hierarchical socioeconomic classes. As the Agrarian era continues, some humans remain nomads and do not adopt farming but they instead transition from foraging to pastoralism as they become better at domesticating wild animals and using them for food and clothing resources in nomadic tribal communities. These pastoral nomads likewise improve in domesticating animals, building better weapons, and raiding these settled farming communities or being attacked by the large organized armies of these expanding agricultural and then expanding urban settlements. The cities of ruling tribute takers and subject peasants and the nomadic communities of pastoral peoples and foragers usually come to conflict over rights to the land and its natural resources, causing the so-called civilized peoples to often label such foreign tribes as “barbarians” even if the agrarian civilized people were often more violent and barbaric than their pastoral, foraging, or fellow foreign agrarian counterparts. All cities, farms, and homes that develop in ancient and modern times are the eventual descendants of these first agrarian civilizations.



Throughout the long and vast ages of life and humanity from prehistoric to contemporary times as different species, states, and individuals come and go and the global biosphere still remains despite constant changes in its life forms, humans and life forms often spend their time doing countless repetitive, pleasant, unpleasant, and boring physical and mental activities day after day after day from birth to life to death across the many generations. These social activities include the following: being born; aging from childhood to adolescence to adulthood to old age; living; dying; working; studying at school; alternating between experiencing mental and physical pleasure and pain; singing; making art; acting in theater; dancing; exercising; doing nothing and being slothful; playing games and sports; writing and reading books and stories; watching television; listening to music; eating; excreting; fighting; making war; making peace; talking; remaining silent; sleeping; dreaming at night; daydreaming; fulfilling and failing various goals; having fun; suffering; loving and hating others; teaching others; getting bored; having sex or [redacted] remaining single and being a loner; being in romantic and platonic relationships; accepting the social order and status quo; rebelling against the social order and status quo; experiencing self-actualization and belonging to social groups; feeling social anomie; experiencing euphoria from the good of life; experiencing depression from the bad of life; laughing and crying; having and supporting families, both healthy and dysfunctional; having and raising children; killing others; saving the lives of others; cooperating with others; competing with others complimenting others; insulting others; hurting others; helping others; and either submitting or rebelling against those with hierarchical family, military, legal, and political power. As individuals and their communities rise and fall like mountains coming and going throughout the ages, their life stories are repeated in countless variations as similar beauties and atrocities, loves and hates, hopes and tragedies fill the pages of history. Therefore, every life that is not cut too short repeats the same basic heroic or villainous journey from birth to life to growth to decay to death to giving birth to the next generation to repeat the cycle (as analyzed more deeply in the comparative mythologies studies of Joseph Campbell and his model of the Hero’s Journey).

Adhering to a metaphysical materialist monism, material and biological evolution studied in the natural sciences suggests that human beings, other life forms, and their consciousness are solely physical and are limited to the mortal material body, nervous system, and brain, causing them to eventually become condemned to permanent death at the end of their lives. On the other hand, paranormal stories studied in the social science of parapsychology, including accounts of ghost apparitions, reincarnation memories of past lives, and near-death afterlife experiences told throughout the ages and throughout countless cultures, suggest that metaphysical dualism of mind and body or of spirit and matter might be true. In such a dualistic model, consciousness might not be solely limited to the physical body, nervous system, and brain. Instead, consciousness might be able to exist as disembodied beings, subtle energy, and immaterial spirits and ghosts. Like good and bad people and helpful and harmful animals, spirits are often viewed as either benevolent and angelic-like or as malevolent and demonic-like depending on their emotional effects on people and their positive or negative relationships with human beings. Likewise, spirits of both deceased humans and some animals and pets

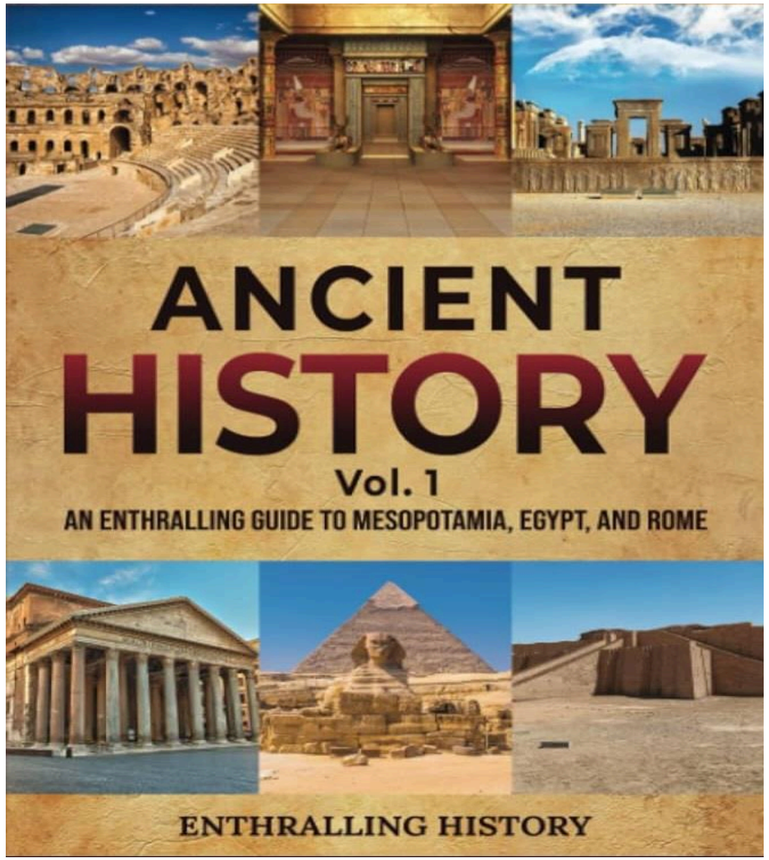
appear in ghost stories and near-death experience accounts. While such a model would still accept material and biological evolution as true, it would supplement it as processes parallel to spiritual evolution of individual souls and perhaps of a godlike world or cosmic collective soul as well.



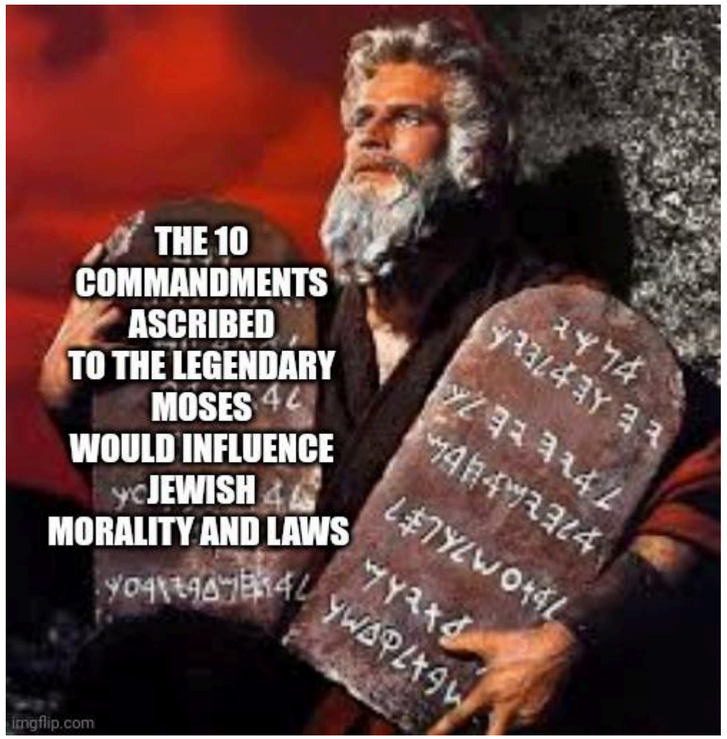
While a physical living body is born, dies, is solid, and is visible and perceptible to the five senses, a ghost or spirit cannot die, perhaps exists in a spiritual higher dimension before birth and after death, becomes connected with the body at birth and throughout life and becomes separated from the body at death, can go through solid objects, is usually invisible to the five senses unless it manifests as a ghostly apparition, and can only occasionally communicate and interact with living beings and physical objects through poltergeists and mediums. Thus, spirits or souls seem to be different from ordinary dense matter and more similar to some forms of energy that can literally pass through material objects. Likewise, spirits seem to be linked more to the dream state of consciousness and to an altered form of disembodied consciousness

present in out-of-body experiences (OBEs) and near-death experiences (NDEs). Near-death experiences, or NDEs, seem to support some of the basic afterlife beliefs of the various polytheistic and monotheistic religions of history. Of course, most scientists and psychologists believe NDEs do not support the existence of a spiritual afterlife and can be explained naturally as temporary brain-based dying and altered states of consciousness. In addition, some people who temporarily die do not have any afterlife experiences and instead experience absence of consciousness and nothingness like all people experience during states of dreamless deep sleep, so only some people have NDEs. While NDEs suggest that some spirits experience afterlife dimensions after physical death, ghost stories and reincarnation memories suggest that some spirits remain in the physical world after death. However, regardless of NDEs supporting or not supporting the existence of consciousness in the form of disembodied spirits, positive and negative NDEs usually have the following common characteristics: an out of body experience or OBE, the feeling of one's consciousness leaving the body at death or near-death; being invisible to the living like a ghost and being aware of the people surrounding one's dead body despite the living being unaware of one's invisible presence; traveling through a dark tunnel toward a bright light; negatively experiencing a dark and empty Void dimension where apparent distressed spirits and negative entities exist; positively experiencing a realm of pure love and light where a god-like Being of Light and other positive beings of light as well as the joyful spirits of deceased friends, relatives, religious figures, and even pets exist; having a life review, in which one experiences one's entire life all over again but also experiences the mental perspectives of everyone that one has interacted with throughout life, enabling one to experience true empathy for the feelings of others and to learn from one's good treatment toward and mistreatment of others; and an apparent return of consciousness to the body to resume life. Religious people of various faiths and atheistic and agnostic people of no faiths experience NDEs, suggesting that one’s religion or lack thereof does not fully determine one’s afterlife state. Instead, being a good person and having a positive light-filled and loving NDE and a mainly positive life review (in which one's good deeds outnumber and overshadow one's bad deeds in life) can result from following either religious or secular morals during one's physical lifetime (just as religions and secular philosophies can generate both altruistic and immoral behavior in different people). While spirits lack physical bodies and appear to be invisible disembodied minds, when they manifest as ghost apparitions, they appear to have subtle bodies of energy that resemble their once living physical bodies but that are less dense than normal physical biological bodies. This subtle body of energy is similar to the mental dream body that everyone has in dream states and that is distinct from the waking physical body (for example, the dream body can be injured and killed in the dream state of consciousness, even while the physical body is unharmed in the waking state of consciousness when one wakes up from a bad dream). However, the philosophical debate between metaphysical materialism and dualism remains unresolved so it is unclear which one is ultimately true about the nature of reality and the self.

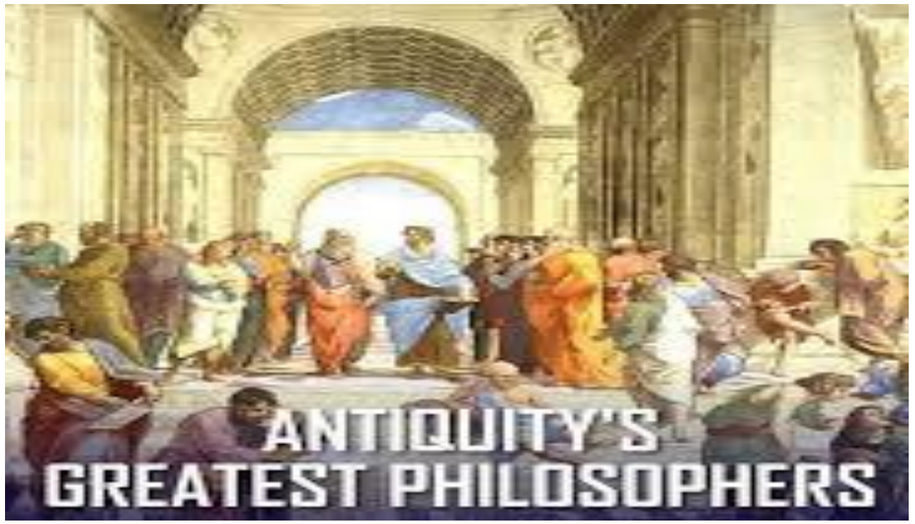
While evolutionary biology and zoology concern the known past and present animal species on earth, cryptozoology studies cryptids, the mysterious and legendary creatures without known evolutionary histories in the fossil record and mentioned in the folklore of various societies and cultures (common cryptid examples include the caveman-like and ape-like Bigfoot also known as Sasquatch or Yeti, the plesiosaur-like Loch Ness Monster or Nessie, the werewolf-like Dog Man, the vampire-like chupacabra, etc.). Just like the spiritual studies of parapsychology and the alien studies of ufology, cryptozoology is criticized as a pseudoscience by natural scientists and social scientists. However, these fringe fields of study are more akin to detective work in criminology than any of the natural and social sciences. Despite frauds and errors present in these fields studying the unknown, there have been genuinely good academics and researchers sincerely trying to study and document paranormal phenomena of spirits, aliens, and cryptids (all of which may or may not exist). Of course, claims of the existence of these paranormal entities should be reviewed on a case by case basis. Likewise, everyone should remember the famous playwright William Shakespeare's poetic reminder that there are more things in the heavens and the earth than the entities studied in current known philosophies and sciences.



Following the rise of the first complex agrarian civilization in Sumer around 4,000 BCE (Before the Common Era), the great agrarian civilizations and empires of the Middle East, Mesoamerica, and Africa came into existence. Despite their cultural and technological differences, these ancient agrarian civilizations were all full of conquering emperors uniting their societies under a central often authoritarian government; tribute taking elites extracting resources and labor by force from the lower classes of society; tribute paying peasants giving their labor and resources to the elites in exchange for protection from the elites themselves and protection from foreign conquerors; hierarchical urban social classes with complex status rankings and divisions of labor; farms that provided goods to the cities and cities that extracted resources from farms and provided alternative lifestyles to farming; explorers and military travelers exploring and conquering foreign lands to expand their domestic societies; religious priestly classes supporting worship of powerful gods ruling over nature and supporting the power of the state; superstructure architecture indicating the complexity and social inequality in society; and traders exchanging different goods within and between societies. Developing several thousand years before the birth of the western Christ, these Middle Eastern, African, and Mesoamerican civilizations lead to the development of primitive astronomy and astrology (studying the celestial bodies and stars in the heavens above the earth), the recording of the seasonal cycles marking the passage and cyclical nature of time in nature and society, ritualistic animal and human sacrifices to the gods, more complex polytheistic religions with temples and hierarchical gods resembling human overlords in society, and the invention of complex mathematics for architecture and economics and written language for permanent records of knowledge. Writing is an important invention that allows the development of more permanent recorded forms of culture, law, and literature. The religion of the time focuses on divine kings, heavenly and underworld good and evil gods, epic myths and heroes, temples and sacrifices, and the belief in the other spirit world of the afterlife due to the natural fear of death and near-death experiences. These first cities trade resources and make war for resources or cultural differences upon each other on dry land. Empires of these cities develop from bloody military conquests, connecting many people under a common central and often authoritarian and hereditary aristocratic rule and law for the first time in history. Meanwhile, the invention of wooden boats enables mankind to develop some rule and mobility over the seas, giving people power over both dry land and water. Although imperial weaponry continues to advance to better and more efficient metal weapons like swords and improved military formations for battle, the extent of political power is limited since the available distances of dry land are limited by the horse and chariot. As the agrarian empires extend their rule across the Middle East, Europe, Asia, and Africa (which technically form the interconnected landmass of Afro-Eurasia), their peasant and urban lower class subjects either submit or rebel against them, and they both fight and make peace with the free, nomadic, unconquered, pastoral, and forager barbarians of the “uncivilized” wilderness. While the Mesoamerican empires of the Olmecs (the oldest American civilization that originated around 1200 BCE), the Aztecs, the Mayans, and the Incans arise in different eras and rarely interact with one another due to geographic and temporal factors ranging across Central and South America, they are also isolated by the oceans from the empires of Afro-Eurasia for a very long time (both the Old World and New World civilizations being completely ignorant of one another due to separation by the world oceans).
Following the rise and fall of the Sumerian and subsequent Middle Eastern imperial dynasties (Egyptian, Babylonian, and Assyrian) comes the rise of the great Persian Empire in the 6th Century BCE.



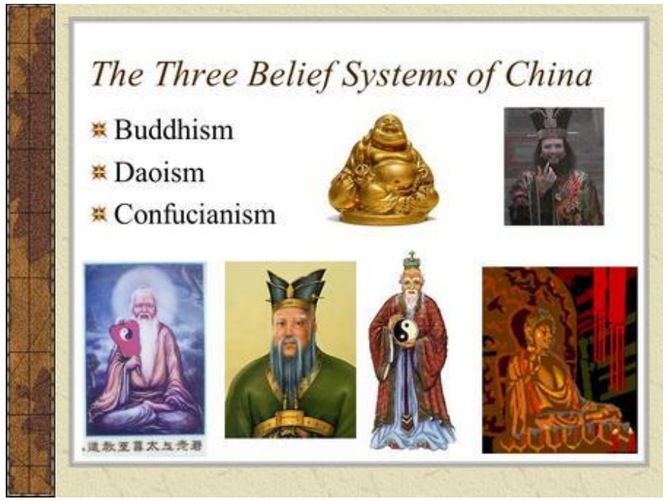
Within this vast domain of warring, exploring, farming, urbanizing, enslaving, and trading imperial agrarian states, the story of the Hebrews and Jews, unimportant in their own time but very important in modern times, begins. These Jews set up their own tribes, kingdoms, armies, priesthoods, and temples in the land of Israel, but they also begin to write and spread their religious writings across the land. Like only a few Middle Eastern cultures before them, the Hebrew Jews develop monotheism, the worship of one God ruling over all other spirits, humans, and life forms. They write that famous holy book of histories and myths, the Bible, uniting them under one monotheistic tribal God Yahweh, whom they worship above emperors, kings, and priests and whom they want to give them predominance over the known world to unite all societies in worship of their God. While the first creation myths of the Bible were heavily influenced by previous Middle Eastern mythology like the *Enuma Elish* and *Epic of Gilgamesh* myths, the later partially historically accurate and inaccurate stories chronicling the history of the Jews begins the unique story and unique beliefs of Judaism. Thus, while the Jews are repeatedly defeated and subjugated by the pagan polytheistic Empires around them, they develop monotheism and a strong religious resistance to the foreign enemy tribute taking emperors, kings, and priests. With the Jewish prophets, the Jews appeal to their invisible God Yahweh, whom they claim created the whole known world, punishes wickedness, rewards righteousness, and rules over the earthly rulers (all emperors, kings, aristocrats, and priests). The Jews believe Yahweh has chosen them to unite and rule over the world, not for their own sake but for his glory and to impose his strict patriarchal morals and diet and standards of divine justice upon society. Key to Jewish morality are the 10 commandments describing proper religious worship and moral treatment of others and their property. The ten commandments state that moral people should do the following: they should show proper worship and respect of a god; they should respect and listen to their parents and proper authority figures; they should not commit murder, adultery, theft, and deceit; and they should not be envious of their neighbors' property. Most or all of these practical rules for good living could be adopted by both religious and atheistic people (with the main differences being worship of different gods for different religious people and respecting the entire cosmos in place of a deity for atheists), and similar moral codes of the Middle East existed in such forms as the Code of Hammurabi, the Babylonian emperor Hammurabi's legal code. Despite their lofty and inspiring claims to unite the world under one tribal God of righteousness, the Jews cannot muster the technological and military might to make their political dreams a reality as the other polytheist empires seek either to exterminate or assimilate them with varying levels of success and failure. With the defeat of their utopian dreams, the Jews take solace in the promise of the prophets of a Messiah King, who will supposedly bring about the world their God Yahweh has promised them. Thus, with the Jews, the men called prophets enter history, who are independent religious preachers and social reformers often with fundamentalist religious convictions and who are different from the kings, emperors, priests and witch doctor shamans who preceded them. Like the astrologers and priests before them studying the stars and heeding the omens from their gods, the prophets often claim to predict the future according to their communion with their God Yahweh.



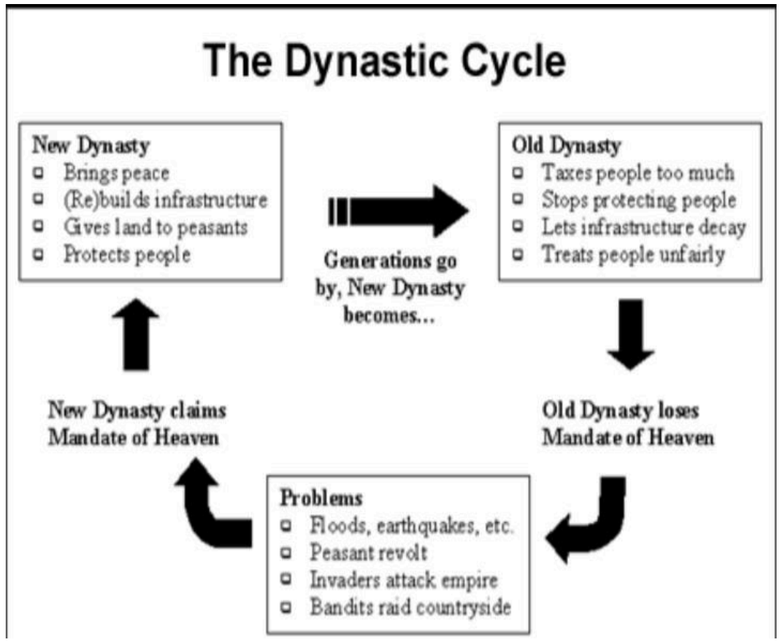
As the Persian imperial dynasties and dominions grow and extend their power across the Old World, a scattered community of Mediterranean Europeans known as the Greeks develops their own political systems and city states. These Greek diverse governments include direct democracies ruled by majority votes of those considered to be full citizens, oligarchies ruled by small powerful classes, aristocracies ruled by hereditary classes that inherited power, military dictatorships ruled by tyrants seizing power by force without being elected or inheriting power, and plutocracies ruled by wealthy classes. Of course, different degrees of democracy, aristocracy, plutocracy, oligarchy, and tyranny are present in virtually all ancient agrarian and even modern industrial societies. However, since the Greeks were divided into so many diverse city states, they provide many examples of these different forms of secular government. Despite their differences, the Greeks were united by common religious myths, environments, and the Olympic Games. Unlike many Middle Eastern imperial theocracies with their divine emperors and kings, many of the Greek secular governments, despite being influenced by religious priesthoods and cults, were dependent not on the rule of divine and worshipped rulers but on the rule of groups of mortal politicians and classes with no direct claims to divine status. The predominance of theocratic divine emperors would not fully enter Greek culture until the reigns of the later famous military conquerors Alexander the Great and Julius Caesar (who both claimed demigod status as emperors).Such governments of more secular thought enable the Greeks to have great freedom in thought, leading to the first Greek lovers of wisdom, the first metaphysicians who criticize and improve the religious myths of the past to explain the world.

These men are the first philosophers, men who are not priests but who still claim to understand the natural mysteries of the world by personal intuition and logical reasoning. These Greek Pre-Socratic philosophers originate with Thales, who lived circa 600 BCE and who claimed that water was the primordial material substance from which all other material substances originated. Some of these Pre-Socratic philosophers and their new theoretical cosmologies greatly foreshadow modern materialist science, especially the philosopher Empedocles, who had his own ancient versions of the Big Bang, Big Crunch, and Big Bounce cyclical cosmology and his own version of the theory of biological evolution by natural selection, as well as the philosopher Democritus, who developed the first theory of chemical atoms that composed all material bodies. The materialism and atomism associated with Democritus would become the basis for the metaphysical and moral theories of Epicurus. The followers of Epicurus, known as the Epicureans, were moderate hedonists who argued the following: people should pursue physical, emotional, and mental pleasures as the goods of life; people should avoid physical, emotional, and mental pains as the bad of life; people should enjoy pleasures that have few or no pains associated with them (such as eating delicious but healthy foods in reasonably sized portions); and people should eschew pleasures that have many pains associated with them (such as excessive sex causing sexually transmitted diseases or drug abuse resulting in addiction and overdoses). This ancient and wise moderate hedonism is still practiced by many pragmatic people today and was also the basis of later ethical theories like utilitarianism, a social philosophy that argues everyone should behave in ways that produce the greatest amount of happiness (physical, emotional, and mental pleasures) and the least amount of suffering (physical, emotional, and mental pains) for the greatest amount of people in society (a form of egalitarianism). Eventually, the Persian Empire and this band of divided Greek city states go to war on land and sea around 500 BCE. Against all odds and with the heroic deadly sacrifice of 300 Spartan warriors in an epic battle with greater Persian forces, the Greeks ultimately defeat and repel the invasion by the militarily greater Persians. Despite subsequent bloody wars among themselves, Greece enjoys a brief golden age, in which the greatest Greek philosophers (including Socrates, Plato, and Aristotle) flourished. The philosopher Socrates develops the Socratic method of logical argument against illogical fallacies in reasoning and in contrast with the popular sophistical and rhetorical Sophists, allowing philosophy to develop its methods of logical and rhetorical debate. While Plato develops dreams of a Greek utopian society based on the rule of philosopher kings, his student Aristotle focuses on science and natural history. Despite his limitations, Aristotle becomes the first major Greek scientist, classifying and intensely studying the various beings and forces of the world as well as founding the sciences of Western physics, biology, and psychology. Aristotle also discussed fundamental ethics, or theories of morality. While religious ethics were based on the decrees of supposedly real deities, philosophical ethics does not necessarily need a spiritual basis and could have a naturalistic basis in human rationality and empathy. Likewise, positive altruism and mutualism symbiosis in the natural world and animal kingdom (as well as the more negative biological

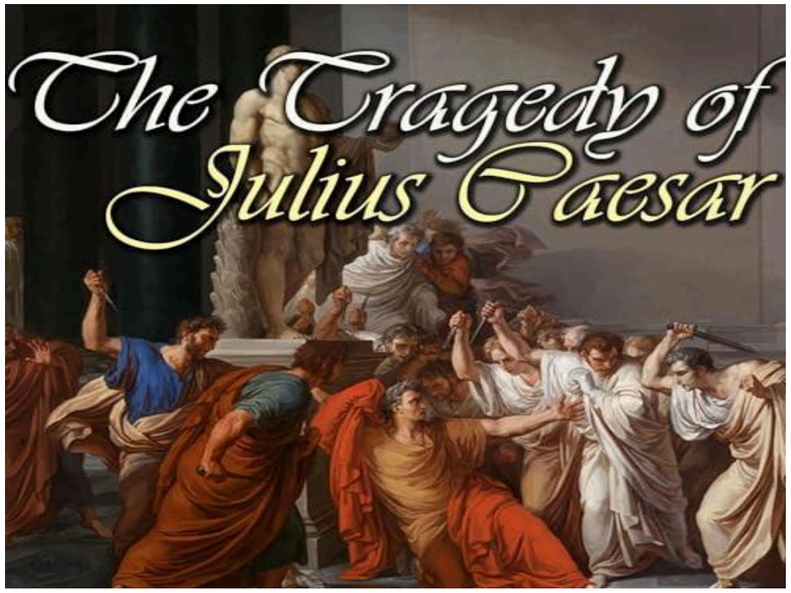
relationships of predation and parasitism) could be the fundamental basis of the origin and evolution of morality in intelligent earthling life forms, both human and non-human. A key Aristotelian ethical idea was following the golden mean of personal virtues between the extreme vices of excess and deficiency (for example, being a moderately courageous person without being either dangerously foolishly reckless or pathetically cowardly). This idea is similar to the common practical ethical advice to have moderation in all things (such as eating just enough without undereating or overeating for a healthy body and mind). Despite such intellectual achievements, the Greek internecine wars, especially the Peloponnesian War between the competing city states of Athens and Sparta, waste the political and cultural influence of Europe until around 330 BCE when the Macedonians under emperor Alexander the Great conquer Greece and the remnants of the Persian Empire. Although the Macedonian Empire quickly divides into separate competing dynasties and dominions after the death of Alexander the Great, the spread of the Greek culture of Hellenism enriches the rest of Asia and Europe with the great ideas of the Greek philosophers and a great library of collective learning, the Library of Alexandria, is founded for the advancement of ancient science. Thus, while the first major urban religion originated with the Sumerian civilization, the first major urban scientific organizations originated in the Mediterranean, just as one of the first historians of human history was the Greek historian Herodotus.



Meanwhile, in Asia during the 6th and 5th centuries BCE, three important philosophers across different eras are likewise reforming the rule of kings, priests, and political bureaucracy, including the Indian sage known as the Buddha, who is the founder of the universal religion of Buddhism, and the Chinese sages Confucius and Lao Tzu, the founders of Chinese Confucianism and Taoism. While the Buddha retains many of the core teachings of the priest ruled and caste stratified Hinduism, such as nonviolence towards certain animals and the belief in the rebirth of consciousness after physical death into new life forms, Buddha also founds the first universal religion of Buddhism. Buddha preaches the respect of all forms of life, humans and animals, since they all experience suffering and deserve compassion. Buddha also preaches the brotherhood of all living things whose consciousness is trapped in the cycle of reincarnation and the wheel of rebirth. Buddha emphasizes the importance of overcoming the primitive moral limitations of the animals by morals and meditative practices and the ultimate goal of serenity of the soul or Nirvana, which is reached when one loses the selfish sense of separate self, immerses oneself in the service of relieving the suffering of others, and achieves higher states of nondual consciousness beyond normal waking, dreaming, and deep sleep states of consciousness. Like the Jewish reformer Christ who was to follow him, the Hindu reformer Buddha realized that all men could possibly live in relative peace all around the known world if they would only overcome their lower animal natures and unite to take care of each other and other living things like one large monastic family. Many small Buddhist monastic communities have great egalitarian and peaceful societies following his death, which appears to be impossible to replicate in the impersonal, unequal, power hungry, and class conscious large Indian and Asian empires. This important Buddhist teaching then becomes influenced by Hindu mythologies, causing the primitive Buddhism to become transformed into another sect of Hinduism focused more on release from the world to the other spiritual world beyond the wheel of rebirth than on the secular improvement of the segregated caste societies of the world. Instead of a mere mortal wise man, Buddha began to be viewed as similar to Hindu avatars, the physical human and animal incarnations of the Hindu mythological gods sent to the world by the gods to release all living things from the eternal cycle of birth, life, death, and rebirth and sent to save them from the various hells to bring them to the various Heavens, the other spiritual worlds beyond the physical world.

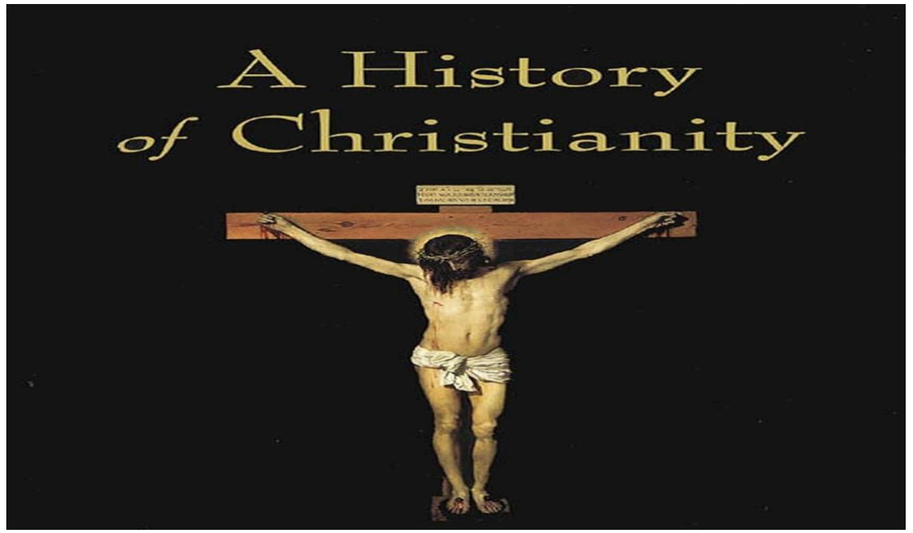


In ancient China, Confucius dreams of a united Chinese Empire to end the divided and warring Chinese city states of the time. A key teaching of Confucius is the Silver Rule of not treating others how you would not want to be treated (for example, people shouldn't kill others because they themselves would not want to be killed). On the other hand, Taoism originating with Lao Tzu develops a mystical understanding of the world and its balance of opposites like the dual but united forces of Yin-Yang. The Chinese General Sun Tzu writes a book discussing the art of successful strategy and warfare in the fifth century BCE. Like many societies observing the cyclical rise and fall of imperial dynasties as different rulers and conquerors come and go, Chinese historians develop a cyclical theory of history in which the ruling emperors gain and lose favor with the moral Mandate of Heaven, resulting in the endless rise and fall of just and corrupt empires. Due to these diverse Chinese political and philosophical ideas, China is eventually ruled and unified by various imperial dynasties, is surrounded by the famous Great Wall, and eventually battles against Mongolian pastoral nomads but remains separate from the European empires until they eventually share trade through the Silk Road.



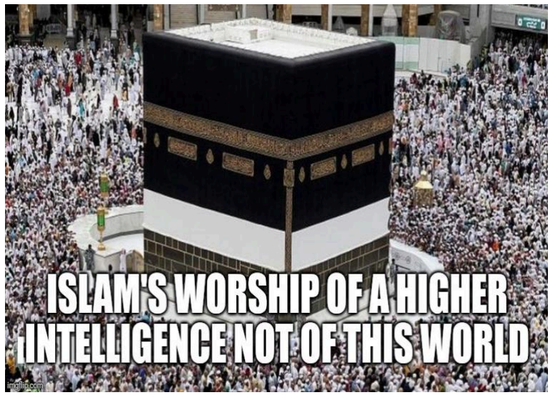
In the Mediterranean, two new political and military powers, the African Carthage State and the European Roman State, fight for dominance of the Mediterranean world on land and sea in a series of destructive and devastating Punic Wars from around 250 to 150 BCE. With the victory of the Romans, the Roman Empire spreads across Afro-Eurasia through military conquest, trade, and cultural diffusion, becoming one of the greatest, most violent, most corrupt, and most intelligent civilizations in history. In many startling ways, in both its most wonderful and most horrific aspects, the history of Roman civilization is very similar to the later History of the United States of America. Both Rome and America began as monarchies, became slave owning societies full of civil war, became representative republics, became full of class conflict between rich and poor classes, became military empires, and were ruled by increasingly authoritarian heads of state (emperors and presidents) and dominated by brutal forms of mass entertainment (Roman gladiator games and American professional football games).While always dependent on many suffering and exploited slaves for its labor, suffering from barbarian raids due to its imperial overexpansion, beset by plague diseases, having no truly democratic political system, having a strong division of landowning and slave owning and working and slave classes, and hurt by political corruption and civil wars for ultimate power,

Rome went through four major political phases. These political phases include the following: the first phase of the assimilative representative republic, in which political representation of the farming populace and even conquered peoples was at its greatest; the second phase of the plutocratic republic of adventurous rich men, in which the republic became more plutocratic for the interests of wealthy land owners and slave owners due to expanding imperial conquests and less representative of regular farmers and more exploitative of conquered slaves; the third phase of the oligarchic republic of military commanders, in which the leaders were those generals with the greatest conquering armies and mercenaries behind them; and finally the phase of the early authoritarian and theocratic empire started by that first overly ambitious and assassinated emperor and dictator Julius Caesar, who tried to concentrate power as an authoritarian and divine head of state from his conquest of foreign lands and his eventual conquest of the city of Rome itself and to exploit the class conflict between the upper and lower socioeconomic classes for his own personal gain in seizing power by force. The Roman imperial dynasties continued to expand their rule by military conquests, alliances, and trade until their territories reached their final limits and all their internal divisions, external overexpansion, and unresolved social problems finally broke their state apart and made it weak to foreign invasion and conquest. As the Roman and Chinese imperial dynasties became the most powerful in Afro-Eurasia, the lives of their various subject peoples, both slaves and free men, mixed until the various religions of the lands became united through theocrasia. Three prominent religions of the time included the religion of Mithraism, full of bloody bull sacrifices; a mixed Egyptian-Roman religion that united common Egyptian and Greco-Roman deities; and finally, Christianity, the second universal religion.

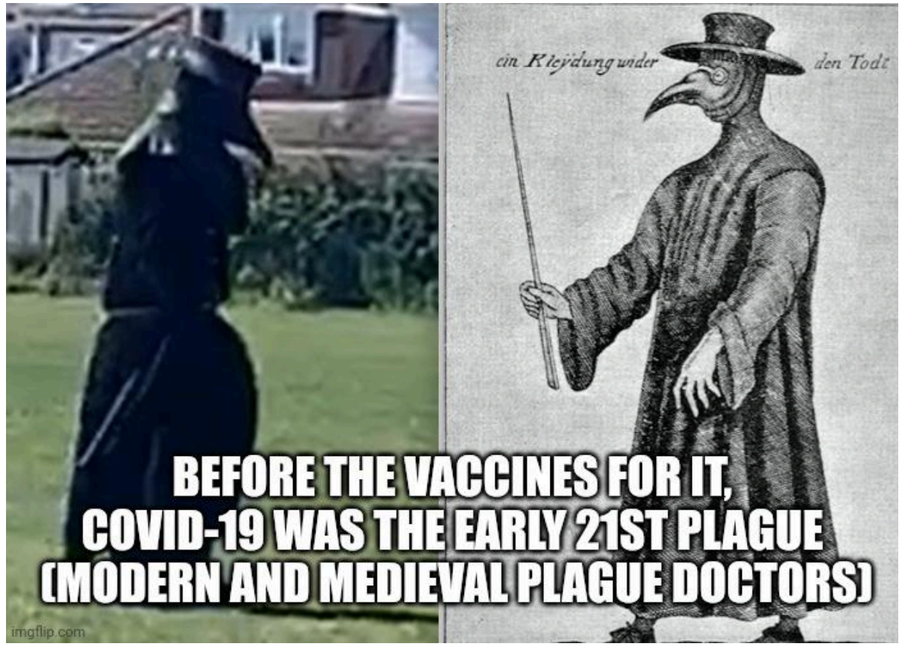


Christianity was founded by the Jewish reformer Jesus the Christ around 2,000 years ago in the first century CE (Common Era). Like Buddha before him, Jesus preached that mankind was a universal brotherhood and that peace was possible between men if they simply overcame their lower selfish animal natures and loved one another like family members regardless of their differences. Unlike the Messiah king of the Jews that they had been waiting for, Jesus was no military conqueror and violent revolutionary but was another radical Jewish prophet appealing to the rule of the Jewish god Yahweh above all emperors, kings, and priests. A key ethical concept of Christianity was the Golden Rule, which says people should treat others how they themselves would want to be treated (for example, people should compliment others because they themselves would want to be complimented). The most revolutionary doctrine of Jesus was that of the Kingdom of Heaven. Jesus taught that all believers who loved God and one another above all else could create a utopian Kingdom of Heaven on Earth, an egalitarian brotherhood of Man united under one God and no longer submissive to the divided and mortal rule of emperors, kings, and priests. Because of his radical teachings, Jesus was persecuted and executed by several Jewish and Roman leaders but his legacy lived on in his Christian followers. Many of his early Christian followers established small egalitarian societies full of the altruism that Jesus advocated for in contrast to the larger, impersonal, hierarchical civilizations of the time. After Jesus's death, the primitive and pacifist Christianity of Jesus became influenced by later Christians, especially St. Paul and the Catholic Church until the decrees of priests and theologians again became more centrally important to the common Christian than

the creation of utopian small societies. There are striking similarities between earlier pagan beliefs and the later Pauline and Catholic teachings and mythologies of Jesus being a blood sacrifice for the redemption of the sins of mankind following the imaginary original sin of the first mythical figures of Adam and Eve; the resurrection of Jesus and ascension of Jesus into the heavenly sky; the Trinity of three deities unified in one Deity in the forms of God the Father and Son and Holy Ghost; and the promise of a heavenly afterlife for righteous and repenting believers and hellish afterlife for non-believers and unrepentant sinners. The similar beliefs of earlier pagan religions included the similar doctrines of the Mithraic religion of blood sacrifice for spiritual cleansing; the Zoroastrian idea of the cosmic battle between good and evil gods and the forces of light and darkness; the Egyptian and Greco-Roman Trinity of gods united in theocrasia; the Egyptian belief in the dying and rising agricultural god Osiris; and the Egyptian obsession with heavenly and hellish afterlives for good and bad souls evident in the Great Pyramids at Giza and in the ancient Book of the Dead. Thus, there were few major differences between the new Christians and earlier pagans apart from the pacifist, egalitarian, and utopian preaching and teachings of the original founder, Jesus of Nazareth. As Jesus began to be viewed as a savior of souls from a miserable afterlife by Christians, earning entrance by faith and good deeds into the heavenly afterlife became more important than social reform of secular society and creating a utopian kingdom of heaven on earth for most Christians. Many Christians, taking inspiration from apocalyptic Jewish beliefs of the time, came to believe that Jesus would return to the world to end all wars, defeat all enemies of the Hebrews, become a perfect divine king, and rule for a millennium of prosperity and peace on earth. However, there has now been 2,000 years of failed apocalyptic Christian predictions about the end of the world, and many historians believe the apocalyptic writings of the New Testament in the Bible refer to the struggles and hopes of Christians being persecuted by the Roman emperors of the early 1st century CE instead of future events beyond that era. As Christianity spread across Western civilization, it was both persecuted and tolerated by the various Roman emperors until it had won enough converts of the lower and upper socioeconomic classes to become the new official religion of the Roman Empire. The Roman Catholic Church and its official doctrine of salvation through Christ was established, causing the division of many Christian sects in beliefs and practices, including those who were loyal to the Catholic Church and those who disagreed with the Catholic Church and its new dogmas. The second greatest Christian Church became the Greek Byzantine Church. Previously the persecuted, the new Christians with political power across Europe began to persecute non-believers and even heretical Christians. As the Roman Empire internally decayed from political instability and corruption, plagues, civil war, military overexpansion into foreign lands, and economic monetary collapse, the barbarian raids and conquests became too much to handle for the Roman central government, resulting in the splitting of the Roman civilization into West and East spheres of influence and the fall of the Latin Roman Western Empire to foreign barbarian conquerors and the comparative rise of the Eastern Greek Byzantine Empire. Despite political collapse and instability in the subsequent Roman states, the two Christian Churches, the Western Catholic Church and the Eastern Byzantine Church, still grew in power and influence as they competed for religious dominance of Christendom.



Following the decline of Roman civilization and the decreased European dominance of the Old World, the third universal religion of Islam originated with the prophet Muhammad in Arabia around 610 CE. Similar to the Jewish prophets before him, Muhammad claimed to be the final prophet of the biblical God whose name was no longer said as the Hebrew Yahweh but was instead called the Arabic Allah. Muhammad believed he was on a mission to make a perfect religion. Muhammad's teachings became the basis of his own Bible of sorts with the Koran, and he planned to assimilate or conquer the states and peoples of the known world in the name of Allah. Like Buddhism and Christianity before it, Islam preached the universal brotherhood of all its faithful and moral believers. Like Judaism, Islam was intensely monotheistic and taught that Allah was a god of righteousness who would reward moral believers and punish immoral sinners in this life and the afterlife. The Muslim followers of Muhammad believed that Allah was above the rule of all earthly rulers. Similar to the conquering Christian emperors rising in political and military power in the divided states of Europe, Muhammad's Muslim successors sometimes preached a military conquest of the Middle East to forcefully unite mankind under a single religious faith and under one God, which was a more pragmatic and violent way to convert the pagans. After the death of Muhammad, his new Muslim followers began conquering much of Persia and Arabia, creating the Muslim empires of various dynasties and caliphates. Eventually, Islam became divided into two often hostile and competing sects of Sunni and Shia Muslims, whose fundamental disagreement was over who should be Muhammad's rightful successor as leader of the Muslim world. As a result of this Islamic schism, there were various competing Muslim caliphates and sultanates and their ruling caliphs and sultans, whose internecine conflicts in the Middle East were similar to later bloody conflicts between Christian Catholics and Protestants in Europe. While they were military conquerors imposing their fundamentalist religious ideas through force, these Muslim states also preserved the rational Greek philosophical writings that had decreased in cultural and intellectual influence due to the collapsed Roman Empire during the European Dark Ages. Some of these Muslim thinkers even spread the protoscience of alchemy, the predecessor to chemistry, wherever they went, helping to preserve the seeds of science and philosophy for the future.


ein Kleydung wider den Todt
BEFORE THE VACCINES FOR IT,
COVID-19 WAS THE EARLY 21ST PLAGUE
(MODERN AND MEDIEVAL PLAGUE DOCTORS)
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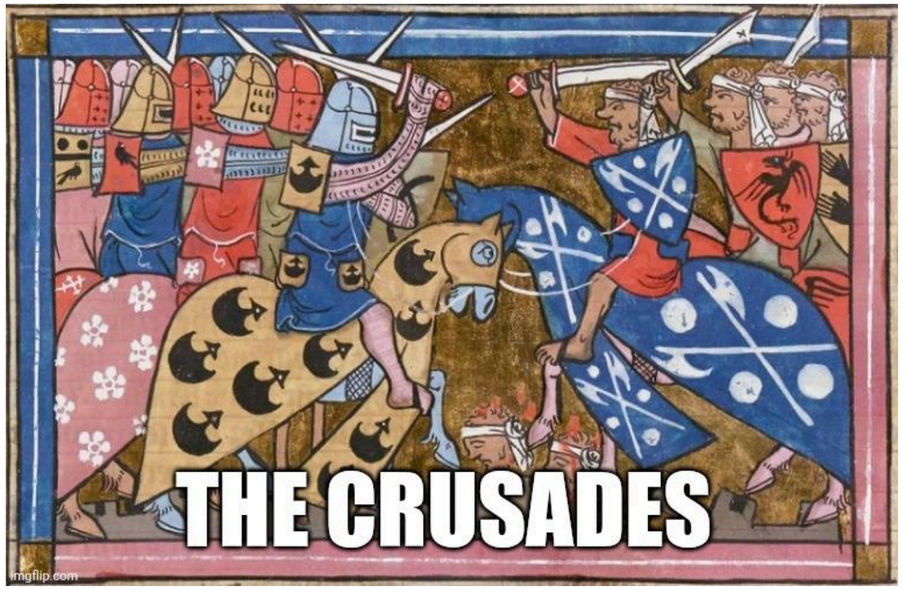
These ancient agrarian civilizations of many politically, economically, and culturally connected hierarchical states often experience rise and fall of their communities and populations due to the following internal and external social issues: military conflicts; class conflicts between the ruling administrative ownership class (the upper class that owns productive property and regulates the labor of the lower class and the unequal distribution of resources in society) and the submissive tax-paying working class (the lower class that does not own significant productive property and that must submit to the hierarchical labor relations established by the upper class and the unequal extraction of resources by the upper class); racial and cultural conflicts between population minorities and majorities in different societies; conflicts between policing organizations and peaceful, innocent, and law-abiding citizens or violent, guilty, and criminal citizens; climate change often due to overexploitation of the natural environment and overconsumption and depletion of natural resources; natural disasters that either gradually result in social collapse or sometimes wipe out entire societies virtually overnight like the notorious Pompeii volcanic eruption of the 1st century CE; and pandemic diseases, like the 14th century Black Death, spread through dirty cities and through the trade networks of the expanding global market (the Black Death was the deadliest pandemic in recorded history and

was a precursor to later deadly disease outbreaks from the Spanish Flu in the 20th century to COVID-19 in the 21st century). These ancient social problems continue into the modern industrial era. Due to the increased collective intelligence of humanity resulting from the rise of empirical science, modern industrial and post-industrial societies only deal somewhat better with these recurrent social challenges.

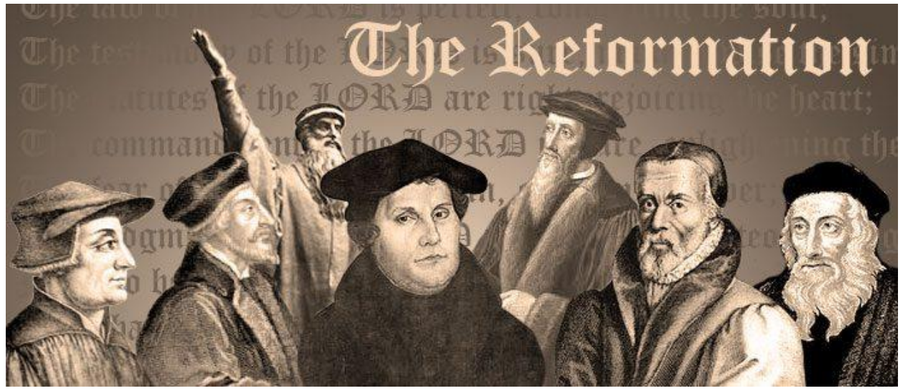


After a few centuries of relatively peaceful coexistence, the two new faiths of Christianity and Islam and the Christian and Muslim imperial churches, kingdoms, dynasties, and militaries (including European Christian kings and their armed forces, the Roman Catholic Church and its militant followers in Western Europe, the Greek Byzantine Church and its militant followers in Eastern Europe, and the Muslim caliphates and sultanates and their militant followers in the Middle East) came into conflict over control of the Holy Land in the Middle East. Like past and future military conflicts in the Middle East, the Crusades were both an ideological struggle to dominate the culture of the region and a socio-economic struggle to control the Middle Eastern land, which has been a constant important bridge connecting the single landmass of Old World Afro-Eurasia. The Crusades occurred from about 1100 to 1300 CE. Often a target of anti-Semitism from fellow monotheists, some Jewish populations were persecuted and massacred by crusading Christians as well (an unfortunate precursor and foreshadowing of later anti-Semitism in European history by Christians toward Jews from the Spanish Inquisition that began in the 15th century to the Nazi Holocaust of the 20th century). The series of religious crusade wars between the Muslims and Christians began and ended with victories and losses for control of the Holy Land on both sides, resulting in a religious power struggle among the monotheistic faiths (Judaism, Christianity, and Islam) for hegemonic dominance in the Holy Land that continues today. Despite important differences, the conflicts between Christians and Muslims during the medieval Crusades would mirror later military and ideological conflicts between local Middle Eastern Muslims and American and European Christians during the War on Terrorism in the early 21st century. Despite the Crusades being a conflict primarily between Christians and Muslims, Roman Catholics and Greek Byzantine Christians first acted as allies then came into conflict themselves, beginning Christian internecine religious and political fighting that would eventually be repeated in future struggles between Christian Catholics and Protestants in Europe. Although not very different from previous military conflicts for land acquisition and religious wars, the Crusades serve as a bloody reminder of how organized religion, which ostensibly attempts to promote social peace and stability, can influence otherwise good people to become irrational and immoral fanatics capable of killing for supposedly sacred religious reasons. Of course, secular philosophies of later history (from capitalist imperialism to authoritarian communism in European states and colonies) would also lead to otherwise good people becoming mass murderers for profit and ideology.

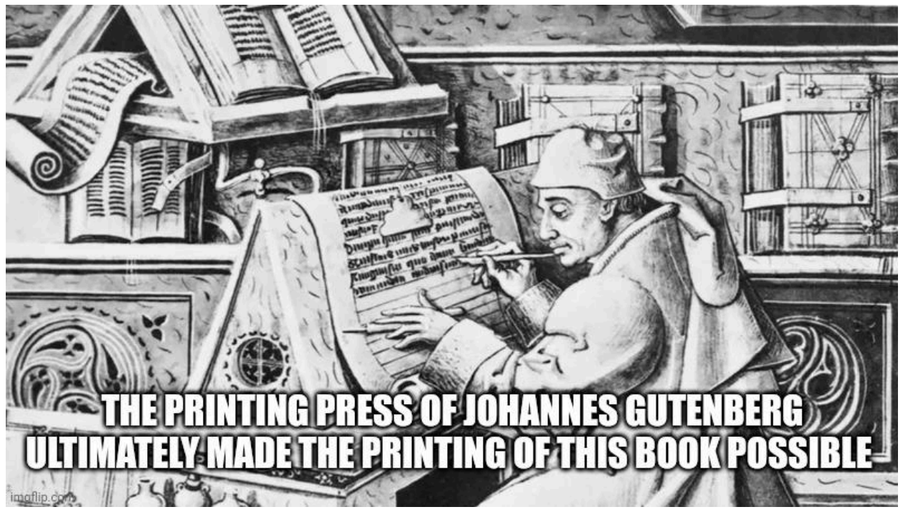
Shortly after the Crusades, Asian pastoral nomadic conquerors, the Mongols of the 13th and 14th centuries, swiftly conquered much of Asia and Europe, creating the largest land based agrarian empire in history. The military successes of the Mongols were due to rapid nomadic warfare, brutally merciless war crimes, sophisticated espionage spying networks, use of gunpowder after its invention in China, and expert strategies in battle. As a result, the Mongols were able to often defeat and conquer their enemies, including some of the divided Christian states of Western and Eastern Europe, some of the divided Muslim states of the Middle East, and the Chinese civilization despite its ultimately unsuccessful Great Wall barrier. Despite establishing a large land based agrarian empire in Eurasia, the Mongols were unable to conquer the more isolated Asian society of the Japanese islands with a major setback being typhoons at sea destroying the invading Mongol naval fleets. These natural typhoons that helped repel the Mongol invasion of Japan are known as kamikaze or “divine winds” by the Japanese, whose later suicidal imperial air force pilots voluntarily crashing into and damaging American naval ships in World War Two would share the same name. Despite causing severe infrastructure destruction and bloody death for many victims across Eurasia, the Mongols also united the previously somewhat isolated cultures of East Asia and Europe. During the rule of Mongol emperor Kublai Khan in China, an Italian explorer Marco Polo (of later fame in water pool games) visited Asia and shared and exaggerated his experience in the foreign Asian lands with his fellow Europeans, which influenced more European travel, trade, technological innovation, and cultural exchange with foreign lands from East Asia to eventually the New World. Like most great military superpowers before it, the Mongol Empire quickly separated into separate political dynasties after the death of its unifying central leaders and founders, the Khans.

After the Mongol conquests, there were major philosophical and artistic changes in Europe during the Renaissance period of the 15th and 16th centuries. The preserved and rediscovered Greek and Roman philosophical literary classics reinvigorated Western European culture with past scientific and philosophical ideas, some of which contradicted and some of which coincided with Christianity. A prominent philosophical development of the time was humanism, a worldview emphasizing the inherent value of human beings and their physical bodies in contrast to previous religious emphasis on the superiority of gods over men and of the spirit over the body. While most humanists of the Renaissance were also innovative religious Christians, humanism would eventually influence the later development of scientism and secular atheism, the beliefs that science is superior to religion in understanding the cosmos, the universe and multiverse are self-sufficient and not created by any deities, and no conscious creator gods exist. While theism argues a conscious God or Gods exist and made the Cosmos and atheism argues the opposite, many people who could not decide between the two worldviews eventually embraced agnosticism, which argues people cannot really know if a God exists or does not exist because it is currently an unresolvable metaphysical question. However, because most

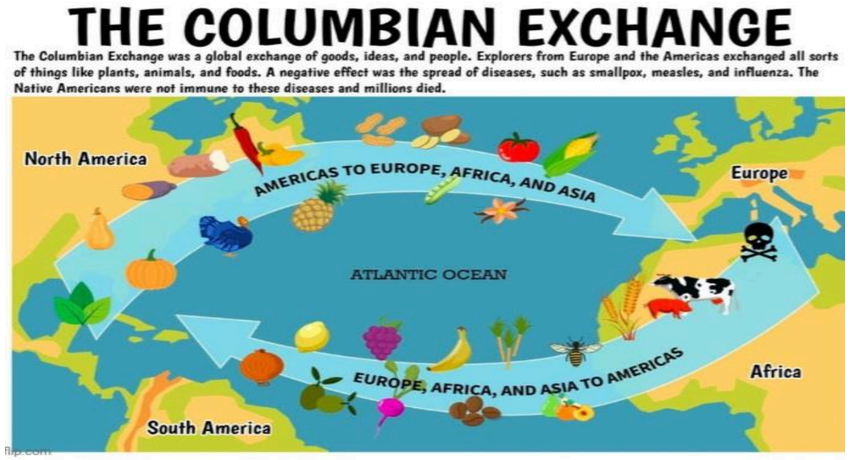
agnostics accept scientific theories over religious ideas whenever the two are contradictory, agnostics and atheists are often viewed as secular ideological allies and irreligious people. The Italian Renaissance of the 15th and 16th centuries was a period of European history, in which some of the greatest works of art produced by the human species were created. The concept of a Renaissance Man, or a polymath person with many diverse talents and interests, comes from this historical period. Three prominent Renaissance artists were Michelangelo, Leonardo Da Vinci, and Raphael (all of these artists would inspire the much greater fictional Teenage Mutant Ninja Turtles with the same names). Michelangelo's two greatest works of art were the King David Statue, an idealized form of male physical beauty, and the religious paintings of the Sistine Chapel in the Vatican of the Roman Catholic Church. The portion of the Sistine Chapel known as the painting of *The Creation of Man* idealizes the spiritual relationship between God and Man. Da Vinci's most famous painting was the *Mona Lisa*, an idealized depiction of female mystique and physical beauty. Finally, the *School of Athens* painting by Raphael is a classic depiction of the great Greco-Roman philosophers of antiquity and idealizes the human intellect and its quest for knowledge about the fundamental nature of reality. Prior to the European Renaissance and the subsequent Scientific Revolution, there was a rise of Western scientific thinkers like Roger Bacon, who preached about the importance of science and empirical experiment and who predicted the eventual invention of future autonomous automobiles, steam ships, and airplanes, which would not become technological realities until after the later Industrial Revolution.



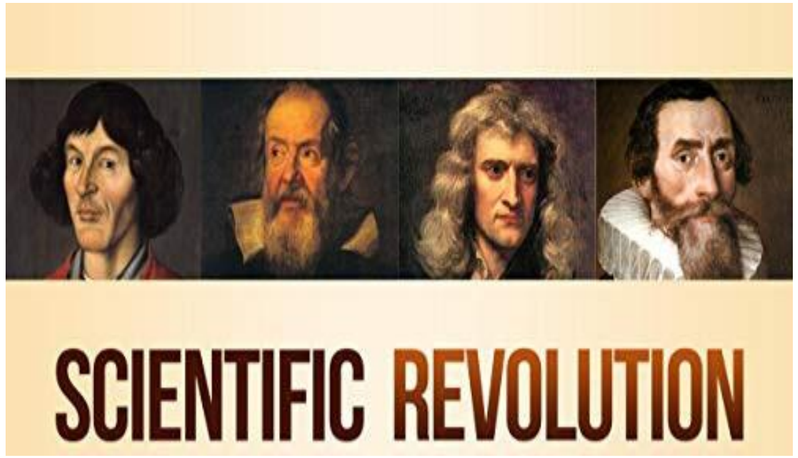
Following the cultural changes brought to Europe by the Renaissance, there was a religious revolution of ideas during the Protestant Reformation of European Christianity in the 16th century initiated by Martin Luther. The bloody religious wars, superstitious witch hunts, and the unfair privileges and corruptions of the Pope and clergy of the Roman Catholic Church in Europe eventually caused many Christians to abandon the Catholic Church and set up Protestant churches in their various countries. These abuses of power by the leadership of the Catholic church that led many Christians to lose faith in its leadership were later repeated during the child sexual abuse scandals by many Catholic priests in the 20th century. Unlike the Catholic Church, which relied on various theological interpretations and elaborations of the Bible by combining biblical ideas with the Greco-Roman philosophies of Plato and Aristotle, Protestants dispensed with its authoritarian papal leadership and used the Bible itself as their one primary guide to religious questions, regardless of the teachings and warnings of damnation by Catholic priests and popes. Because of its reliance on the Bible as the main source for religious knowledge, some forms of Protestant Christianity eventually devolved into religious fundamentalism that rejected any scientific theories that contradicted biblical literalism. On the other hand, because of its openness to pagan philosophical ideas along with the religious ideas of the Bible in Catholic theology, the Catholic Church eventually rejected most forms of biblical fundamentalism and literalism and accepted the harmony of science and religion in discovering truths about reality. However, initially the Catholic Church persecuted great scientists, like Galileo Galilei (who believed that the sun was the center of the solar system and the planets revolved around it and who was tried and imprisoned by the Catholic Church) and Giordano Bruno (who believed aliens existed on many worlds orbiting other stars in a possibly infinite universe and who was executed by decree of the Catholic Church), whose work in natural science contradicted Catholic theology and its outdated Greco-Roman philosophy and science. The increasing freedom of thought expressed in the European Renaissance, Protestant Reformation, and Scientific Revolution would be facilitated and enhanced by the introduction of paper, which was invented in Asia and which was manufactured for book use in Europe following Johannes Gutenberg's invention of the printing press in the 15th century. Following the Protestant Reformation of the 16th century, many European princes and kings of the divided European kingdoms of various cultures, religious denominations, and languages decided to break religious alliances with the Catholic Church and to increase their own power over their subjects by creating their own Protestant National Churches.



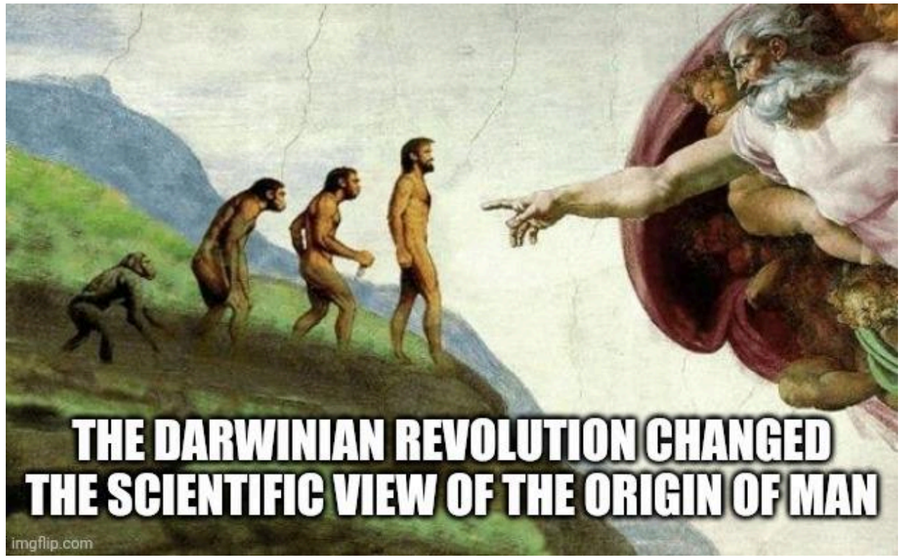
Because of the various religious, cultural, political, linguistic, and geographic divisions between European Christians of the various European states and kingdoms, the various Catholic popes were unable to fulfill their ultimate goal of all of Europe being completely united under the rule of the Catholic Church. Ever since the collapse of the ancient Roman Empire, Europe has been fragmented into various competing and warring states, despite the failed attempt at Western European political unification under the much smaller Christian Holy Roman Empire, first created by King Charlemagne in the 9th century. Following the Protestant Reformation, Europe was once again divided into various kingdoms, dynasties, and empires that were often in wars and alliances of trade and protection with one another but that were incapable of total conquests and total assimilation and destruction of one another. This state of European division was similar to the divided and various Greek city states of ancient times. The culturally diverse European states evolve into great economic and military powers competing and cooperating with each other. The most prominent European states included the Spanish, Portuguese, British, French, Italian, Greek, Prussian, and Russian societies. While many of these states would also establish overseas empires and colonies beyond Europe, only after the Industrial Revolution would the greatest and most expansive European empire, the British Empire of the 19th century, be established. Despite being loosely united by the Christian religion and common socioeconomic institutions of agrarian feudalism, these various European powers were often in wars and alliances of trade, cultural and technological exchange, and mutual protection with one another. However, despite fleeting empires united under temporary imperial central governments being established on the mainland European continent, these various Western societies were incapable of total conquest, assimilation, or destruction of each other, explaining why they still exist in the form of the countries of Western and Eastern Europe today. Like the divided various Greek city states of ancient times, the culturally diverse European states experimented with various governments, including absolute monarchies, constitutional monarchies, representative republics, and parliamentary republics. Due to the decline of the power of the theocratic Catholic Church, many different forms of government became common in Europe with a better and more liberal and democratic division of political power among executive, legislative, and judicial branches of government. Just as these various experiments with different forms of government enabled greater freedom of thought, the invention of the printing press in the 15th century allowed the printing of many books, both Greek and Roman philosophical classics and the religious Bible, allowing the common people to become more literate and intelligent overall and giving the public more freedom in thought than the authoritarian rulers, hierarchical socioeconomic classes, and previously more limited literacy allowed.


THE COLUMBIAN EXCHANGE
The Columbian Exchange was a global exchange of goods, ideas, and people. Explorers from Europe and the Americas exchanged all sorts of things like plants, animals, and foods. A negative effect was the spread of diseases, such as smallpox, measles, and influenza. The Native Americans were not immune to these diseases and millions died.
North America
AMERICAS TO EUROPE, AFRICA, AND ASIA
Europe
ATLANTIC OCEAN
EUROPE, AFRICA, AND ASIA TO AMERICAS
Africa
South America

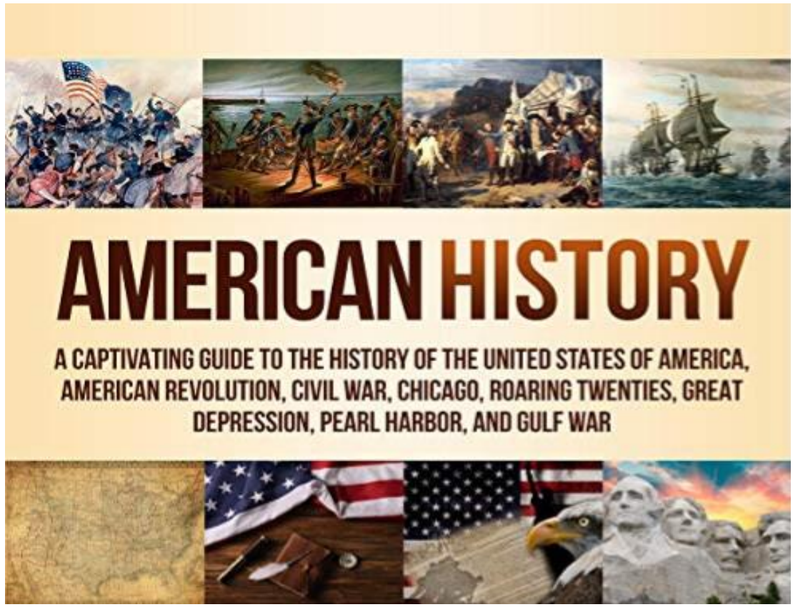
European wooden warships, trade ships, and exploration ships improved in size and range and technological improvements to the navigating compass allowed greater travel by sea. Eventually, the divided European kingdoms of this age of overseas exploration decided to spread their own social problems, technologies, and material goods as well as their trade, religion, slavery, and military conquests around the world via their improved ships. This resulted in the European colonization of such exotic places as China, Africa, and India. This age of European overseas explorers culminated with the European discovery of the New World of North, Central, and South America, following the voyage of the intelligent but brutal explorer Christopher Columbus in 1492. The resulting Columbian global exchange trade network (consisting of the exchange of commodities, domesticated plants and animals, metals, technologies, people ranging from slaves to settlers to military conquerors to religious missionaries, and devastating diseases) connected the New World societies of the Americas with the Old World societies of Afro-Eurasia. The Europeans and their technologically superior warships, horses, and guns, which were improved over countless bloody conflicts among the continental Europeans themselves, swiftly invaded and defeated the ancient Mesoamerican Incan and Aztec empires. These agrarian Mesoamerican civilizations were famous for their advanced agricultural techniques, beautiful and intricate religious art, sophisticated temple architecture, and complex astrology and astronomy. In their complex calendars, these American societies reached the heights of human intelligence. However, the horrific bloody human sacrifices practiced by some of these religious American societies reached the depths of human depravity. The European imperial colonization, economic and religious hegemony, and military conquest of the Americas resulted in an Old World dominance of the New World that would only be reversed when the United States of America would become a global superpower in the later 20th and 21st centuries.



Beginning in the 16th century (and ultimately reaching its culmination in big bang and multiverse cosmology of the 20th century), the Scientific Revolution in Europe challenged the biblically fundamentalist religious dogmas of the Catholic and Protestant churches and began the rise of modern empirical science. There were two major scientific revolutions or Kuhnian paradigm shifts that overthrew some Christian dogmas and some Greco-Roman metaphysics about the nature of the universe and the human species. The first of these scientific revolutions was the Copernican-Newtonian revolution in physics and astronomy that lasted from the 16th to the 17th century, in which heliocentrism of a sun-centered and gravity based solar system of the cosmos overthrew geocentrism of an earth-centered and celestial spheres based solar system of the cosmos. The second of these scientific revolutions was the Darwinian-Wallace revolution in biology and anthropology of the 19th century, in which the theory of evolution of animal, plant, and human species by natural selection in the biosphere overthrew the previous theory of special creation of all biological forms by an intelligent designer deity of the biosphere. These scientific theories of the true material nature of the solar system and human evolution challenged some of humanity's most cherished religious beliefs about the nature of the universe, life, mankind, and God as imagined in the innumerable myths of the countless faiths of the past. Through the Scientific Revolution, natural scientists began to retrace the grand story and history of life, mankind, the world, and the universe in greater and more accurate detail, giving them a clearer picture of the past and a more uncertain look at the future.



While the diverse small and large European states still fought wars among themselves on the continent for central control of Europe, the imperial European powers likewise fought wars for control of their conquered and subjugated New World territories and colonies overseas. Finally, after periods of European exploration and settlement of the New World, the colonies of European immigrants and American indigenous natives of North America and South America rebelled for political and economic independence from their previous European masters. Against all odds, the United States of America, Mexico, and the various countries of South America became independent states through the American Revolution and the Central and South American Wars of Independence in the 18th and 19th centuries. The New World societies of the Americas then became increasingly free from dominance by the Old World societies. The new American countries began their own political systems, including secular representative republics that had a separation of church and state, that were not ruled by kings or national churches, and that had better division of powers among the executive, legislative, and judicial branches of government. The predominantly English-speaking and Protestant United States of America and the predominantly Spanish-speaking and Catholic Mexico and the various countries of South America then continued their complex processes of social evolution, population migrations, trade exchanges, technological innovations, class conflicts, and ideological development of politics and religion.


AMERICAN HISTORY
A CAPTIVATING GUIDE TO THE HISTORY OF THE UNITED STATES OF AMERICA, AMERICAN REVOLUTION, CIVIL WAR, CHICAGO, ROARING TWENTIES, GREAT DEPRESSION, PEARL HARBOR, AND GULF WAR

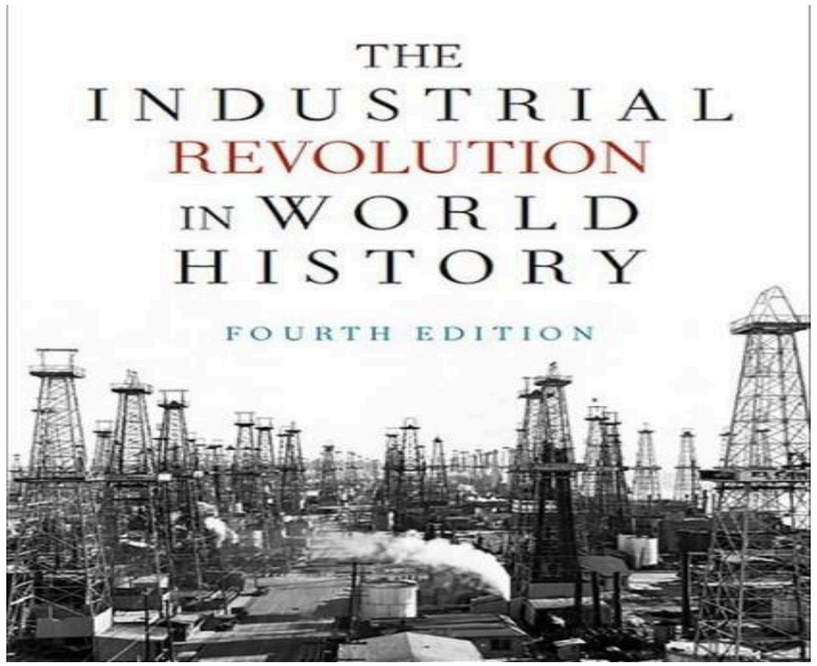
Within a span of less than 300 years from its founding in 1776 to the current 21st century, American society has transitioned from being a loose collection of indigenous tribes and diverse colonists to a single culturally, legally, and politically unified, hierarchical society dominated by an elected central government, wealthy multinational corporations, and a powerful military-industrial complex. Throughout its history of a few centuries, American society has been dominated in different eras by the following common social classes:
indigenous tribes, imperial colonists, free farmers, slaves, explorers and settlers, industrial laborers, post-industrial workers, countercultural hippies and psychonauts, and eventually even space travelers. The history of the United States is basically a story consisting of the following: a popular domestic political and military revolution and insurgency of American colonists against European imperial monarchy and military and foreign tribute-taking taxation; a power struggle among the three branches of the American central government (the executive branch and its military forces and intelligence services, the legislative branch and its powers to create laws and regulate government spending, and the judicial branch and its powers to interpret and enforce

laws theoretically in accordance with the American constitution); a power struggle between the central federal government and the local state governments (most prominently during the American Civil War); many wars waged by Americans against local Native American tribes, African slaves, Confederate rebels, and foreign powers (militaries of North America, Central America, South America, Asia, the Middle East, Europe, and Africa); the struggle of American citizens trying to peacefully co-exist with each other despite endless conflicts, arguments, fights, and murders among individuals everyday (as occurs in all societies); the cyclical rise and fall of the divisive party politics of conservatives and liberals; the struggle of loners and mentally ill people to fit into the large scale, impersonal cities and regular work and leisure routines of communities in American society; and finally, the struggle of different Americans trying to gain more freedoms and liberties from those with institutional, political, military, economic, religious, patriarchal, and cultural power. These struggles for natural rights and civil liberties included the following: Native Americans trying to gain back land rights from European Americans; African Americans trying to gain freedom from slavery and basic civil rights from European Americans; women trying to gain civil rights and wealth in a society and economy once dominated by men; foreign European, Asian, and Hispanic immigrants trying to gain employment and citizen rights from local American citizens; industrial and post-industrial workers struggling with, striking against, and trying to divide wealth more evenly with their capitalist bosses; law-abiding and civilly disobedient citizens trying to uphold basic rights against police abuses of power; police forces preventing criminal citizens from breaking the law and promoting social anarchy; the military and intelligence services protecting and violating the rights of domestic American citizens and foreign states and citizens; secular people (agnostics, atheists, deists, and apatheists) and other non-Christian people (including Hindus, Buddhists, Jews, Muslims, etc.) struggling for their right to free worship against theocratic Christian institutions; law-abiding citizens struggling for freedom from harassment and for safety in person and property from criminal American gangs and mafias; environmentalists and animal rights activists struggling against abuses of the environment and animals by industrialists and farms; people of minority sexual orientations and genders (homosexuals, bisexuals, asexuals, transgenders, etc.) struggling for sexual freedoms and civil rights against the heterosexual, traditional gender majority; and the struggle for power between the civilian voters and democratic government on the one hand and the wealthy special interest groups bribing elected officials and the war-making military-industrial complex trying to maintain domestic and foreign imperial dominance on the other hand (essentially, the struggle for a democratic society instead of a plutocratic and authoritarian society). Despite its small lifespan within the history of civilization on earth, American society is important because it has so many fundamental similarities with other past and present societies and since it is now the dominant imperial superpower of the 21st century. Like all past societies have either completely collapsed or have spawned successor states eventually, American civilization and its federal central government will likely come to an end in the near or far future due to one of the following causes: global nuclear war; another civil war; absorption into a world government; a major natural disaster; or the inevitable change in North American geography due to geological evolution and continental drift of plate tectonics.

Returning to the Europe of the 18th century, France underwent violent social turmoil due to popular rebellion against the corrupt abuse of authority and the unequal and unfair distribution of political power and agrarian and imperial wealth by the French monarchy, clergy, and nobility and the subsequent impoverishment and powerlessness of the French commoners, including the agrarian peasantry and urban middle and lower classes. French society was divided into four major social classes including the absolute monarchy led by the French king, the first estate of the religious clergy and church, the second estate of the nobility of mostly wealthy large landowners, and the third estate of the peasant and urban commoners. The power struggle for political representation and the economic struggle for fair taxation between the upper and lower estates were some of the major causes of the French Revolution. Inspired by the democratic ideals of the American Revolution and burdened by taxation to help support the American War of Independence to limit the power of the British monarchy in the Americas, the rebels of the French Revolution began overthrowing the corrupt French monarchy and overturning many unfair traditions of the clergy and nobility. The revolution for a more just

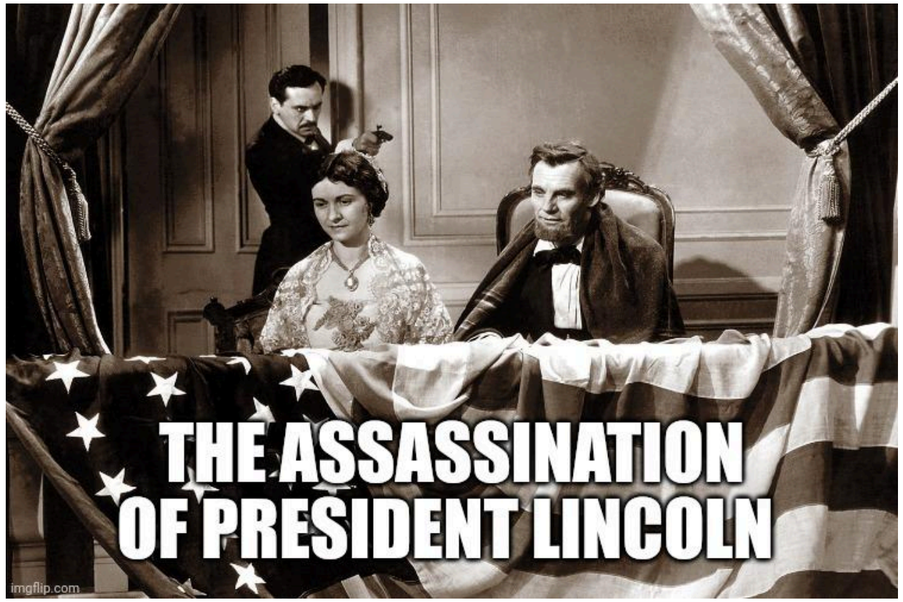
society soon devolved into mob violence and indiscriminate terror upon those rightly or wrongly accused of being reactionary supporters of the royal regime. The execution and collapse of the French monarchy by bloody guillotines led to the establishment of a new constitutional republic with more equal democratic political representation and more equal distribution of taxation and wealth in society. The successful French Revolution led to French imperialism as the new French republic tried to encourage the overthrow of similar European monarchies and tried to dominate as the ruling political and military authority of continental Europe. Taking advantage of these wars for social change was the famous French military commander with the greatest Napoleon complex, Napoleon Bonaparte, who tried to make these wars for popular liberty into wars of imperial military conquest and to make France and more importantly himself as new French emperor the rulers of Europe in the early 19th century. After many difficult battles in the subsequent Napoleonic Wars that raged across Eurasia (including Western Europe, Egypt, and Russia), a European monarchist alliance of nations and militaries finally defeated the Emperor Napoleon and his French forces at the epic Battle of Waterloo. The 2023 film *Napoleon* is the best depiction of the life and career of Napoleon, who is brilliantly portrayed by actor Joaquin Phoenix.

Despite its increasing losses of the New World imperial territories following the American Revolutions for political independence, the European imperial powers continued to fight for military power over and to compete for corporate profit over their other overseas colonies and territories around the globe in Asia (both India and China) and Africa especially. This age of European imperialism resulted from both continuation of agrarian imperial disputes for continental land dominance and from predatory capitalist competition for forcefully profiting from and exploiting the natural resources and labor forces of foreign markets. The military conflicts and capitalist competition among European states around the world determined who would control the colossal wealth, natural resources, settlements, and foreign labor of the new global market. The British Empire with its formidable navy became the most powerful overseas empire in history until the establishment of the communist Soviet empire in Eastern Europe and the informal American Empire of corporate dominance and military bases enforced through the American Navy and Air force in the later 20th and 21st centuries. Because of its status as the largest empire in history prior to the later 20th century, the British Empire is responsible for English becoming a globally spoken language (explaining why this book is written in English). Likewise, the British multinational corporation of the East India Company and its private army would represent the growing power and influence of private capitalist multinational corporations that could now compete with and even overpower traditional agrarian states, like India.

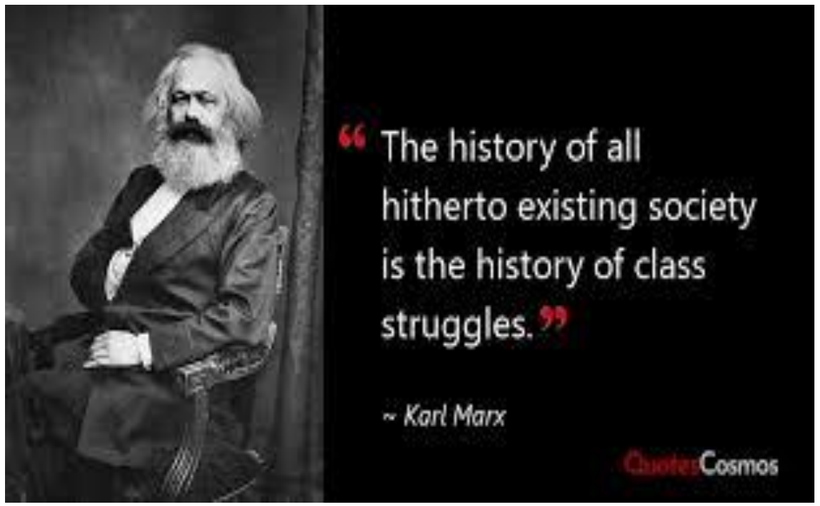


While the Copernican and Darwinian scientific revolutions of the 16th and 19th centuries overthrew traditional religious beliefs, the continued rise of science (especially the physics of energy forces and mechanics) also contributed to the mechanical revolution and the industrial revolution that began in Europe and spread around the globe through European imperialism in the 18th and 19th centuries. These technological, social, and economic revolutions led to the following important changes in society: the increased mass production in factories of necessary and luxury goods using automated machines, wage earners, and fossil fuels; the so-called death of the peasantry as many peasants were often forced to give up farming lifestyles and had to seek wage employment in the large and growing industrial urban cities; the growing class conflict between industrial workers who sold their labor power and private capitalists who owned the means of production; the increased exploitation of new energy resources like fossil fuels (like coal and oil), heat energy (like steam production), and electricity as well as the resulting environmental pollution; the invention of such revolutionary machines and vehicles as the steam boat traveling the sea lanes, the train traveling the land railways, and the telegraph communicating messages and information around the world (all of these new technologies connected the societies of the world like never before on land and sea and by news information); and the increase in population, cultural diversity, and land of urban cities and Industrial nation states. Following the industrial and mechanical revolutions, the following urban conditions became common in large population centers: large cities full of diseases and hospitals and public health organizations trying to limit the spread and destructiveness of these diseases; the cyclical rise and fall of capitalist industries, including small independent businesses, large corporations, and monopolies; blue collar and white collar work as well as blue collar and white collar crime in industrial and post-industrial societies; police maintenance of law and order against criminal citizens as well as police corruption and abuse of power over law-abiding citizens; wealthy suburban neighborhoods of successful capitalist entrepreneurs and the family inheritors of their wealth; poor inner city and working class ghettos; the boom and bust business cycles of competitive legal markets; the often unsuccessful legal repression of underground markets or so-called black markets for illegal activities, including the drug trade, prostitution and illegal sex work, and human and animal trafficking; gang violence and mafia conflicts among different neighborhoods as local armed tribute takers who forcefully seize wealth arose and battled each other and police forces for dominance over law-abiding, tribute paying citizens on the urban streets; racial and class segregation in society due to popular Social Darwinist beliefs in racism and unregulated predatory capitalism; the rise of nationalism as loyalty to the symbolic super-organism and super persona of the nation state (such as the American Uncle Sam or Mother Russia) became as important as family loyalty and loyalty to one's church and god; the mass imprisonment of civilians for either just or unjust reasons (as seen in later history of the 20th century during the mass incarceration of mainly poor and racial minority groups in the failed American War on Drugs or the mass imprisonment of political and cultural opponents in the authoritarian communist and fascist state prison camps); the increased message of countercultural groups for an abandonment of technological industrial society and a return to a more primitive, simpler life in the natural wilderness; the search for personal meaning through wage or entrepreneurial labor to avoid social anomie in large impersonal urban and suburban social environments; the expansion of unrelated friendship groups for people beyond the once all-important family network of relatives; the increased sexual freedoms and the opposite increased number of monogamous marriages and divorces due to the rise in the number of available mates; overpopulation due to better exploitation of natural resources and increased availability of mass produced goods as well as the subsequent devastation of surrounding natural environments from industrial development; the creation of emergency services to deter crime, rehabilitate the mentally ill, resolve natural or man-made disasters, and save the sick and injured; the creation of educational organizations to teach younger generations the collective worldview, language, and mathematical principles of society; and finally, as societies became larger and populations became greater in number than ever before, there was a rise

of so-called loners of both the creative and destructive varieties, who often felt lost in society and struggled to fit in (as many introverts struggle to fit in among the more numerous extroverts of society).



In the 19th century, the nation that probably benefited the most from the inventions of the mechanical revolution (including the train and railways, the telegraph, and the steam boat) was the United States of America, which used them to expand westward until it forcefully conquered most of North America from the Native Americans. While Europe in the 1800s continued to be a collection of divided and warring nation states, American society endured a long era of national peace and remained under a single central government, law, and economy due to the technologies resulting from the mechanical and industrial revolutions enabling sufficiently fast travel, trade, and news information for its diverse populations. The European American settlers were often but not always the aggressors in their conflicts with Native American tribes, which often resulted in either the genocide and forced resettlement of the indigenous peoples or the native tribal raids and massacres of expeditions of pioneer explorers. Despite the constant wars between European Americans and local Native Americans, the Union under the control of the American central government expanded across the North American continent from the Atlantic to the Pacific coast, essentially creating an American continental empire based on the expansionist idea of Manifest Destiny. As the population numbers of the country increased and the power of the American government and armed forces grew, the United States eventually became strong enough to establish the Monroe Doctrine to try to forbid the expansion of foreign European imperialism (especially from Spanish, British, French, and Russian societies) in the Americas. However, this new technologically advanced American nation was soon devastated, temporarily divided, and nearly destroyed by the American Civil War between the more capitalist and more industrialized society of the North (the Union) and the more slave-based and more agrarian society of the South (the Confederacy). The Civil War became the deadliest war in American history, resulting in the deaths of hundreds of thousands of Americans, including Confederate rebels. However, despite how deadly it was, the conflict was relatively brief, and it ended with victory of the American central government and maintenance of the American Union and the defeat of the Confederate rebel government and its failed objective to dissolve the country into two competing nation states. The end of the Civil War resulted in the end of slavery for African Americans, despite the continued existence of racism, lynchings, hate crimes, and segregation toward African Americans across the nation. However, the long-lasting racial tensions between white European Americans and black African Americans endured after the war and eventually resulted in black civil rights movements in the later 20th century. These civil rights movements often culminated in peaceful racial protests for equality and sometimes devolved into violent riots quelled by police and military suppression. Eventually, racial segregation was ended by law, despite the continued racism in policing of urban minority neighborhoods. Prominent African American public figures that helped to end racial segregation in 20th century American society included the Christian Martin Luther King Junior, who often preached for peaceful civil disobedience against racist authorities, and the Muslim Malcolm X, who often argued for violent self-defense against racist authorities. These subcultural conflicts among Americans would repeat throughout the 19th and 20th centuries as homosexuals and lesbians, women, Hispanic immigrants, and other minority groups (who all felt like second class citizens) fought for their civil rights against bigoted authorities in America, just as unions of American workers fought for their rights against the capitalist owners of big corporations in the new industrial American power.



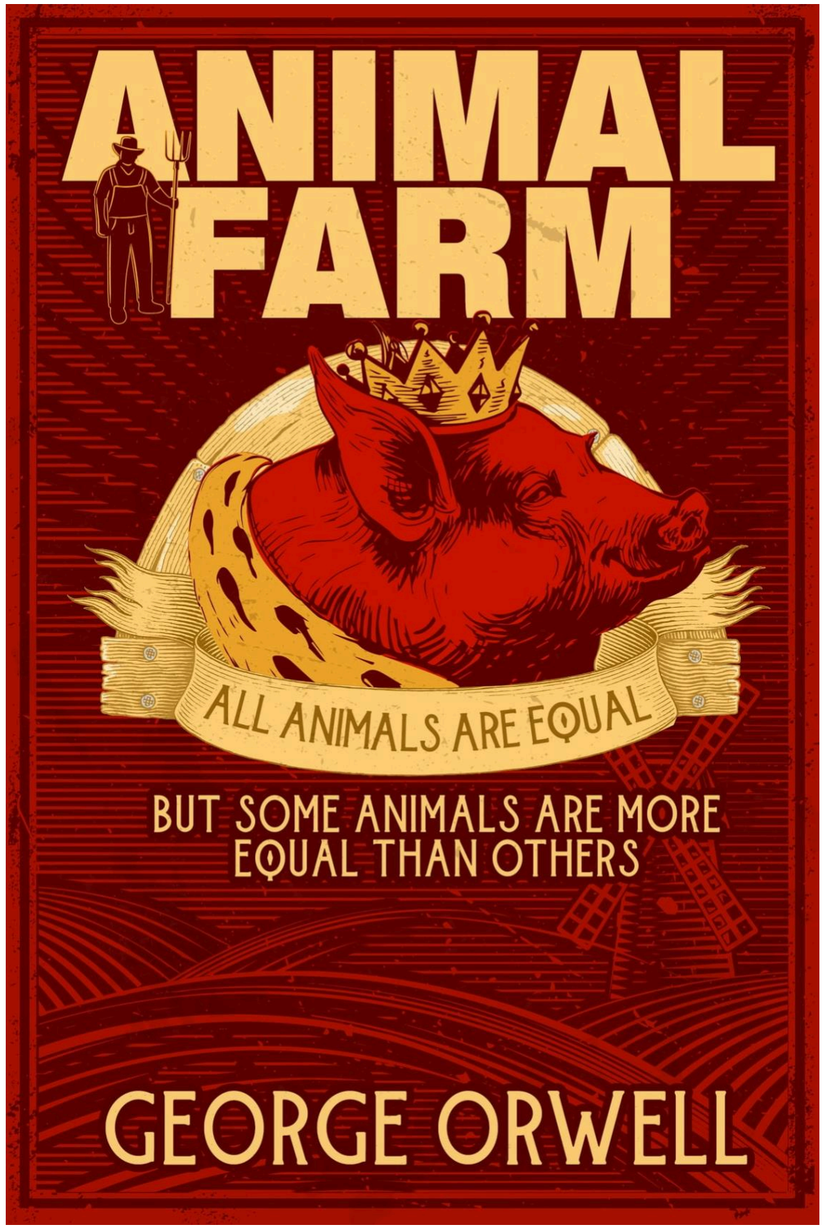
Following the secular philosophical example of the Scientific Revolution, a political revolution of ideas began in Europe. The most important of these revolutionary political and socioeconomic ideas was the development of socialism and communism. The main contrasting types of collectivism were democratic socialism, authoritarian communism, and Marxism advocated by the social philosopher Karl Marx in the 19th century. Marx believed that all civilizations underwent class struggles between the less numerous, more powerful, and wealthier ruling minority group (who owned most of the wealth, property, and productive technology of society) and the more numerous, less powerful, and less wealthy ruled majority group (who had most of their wealth taken by the rulers, who did not own property or who had to pay tributes and taxes from their owned property, and who did not own most of the productive technology of society). The philosophical work of Marx would be improved by later sociological thinkers like Eric Wolf in the 20th century.

Stages of History and Class Conflict at Each Stage

Stage	Oppressing Class	Oppressed Class
Primitive Communism	No classes = No Conflict	
Slavery	Slave Owners	Slaves
Feudalism	Landowners	Serfs
Capitalism	Bourgeoisie	Proletariat
Socialism	State Managers	Workers
Communism	No Classes = No Conflict	

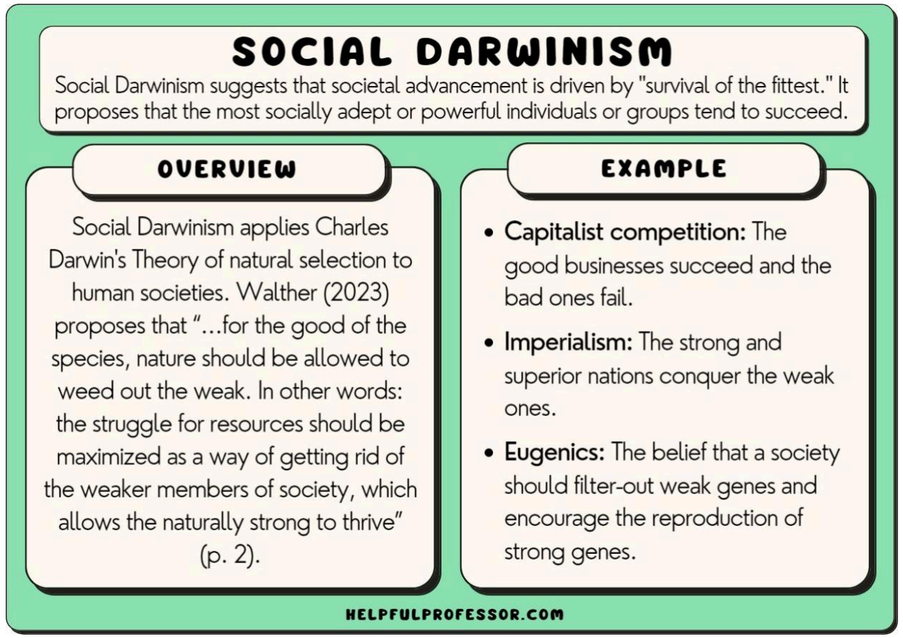
The theory of history advocated by Eric Wolf includes three main forms of social organization. First, in prehistoric history, there were forager and hunter-gather communities, in which the primary features were personal power, family kin ties, hunting and gathering wild plants and animals for survival, and the economic mode of gift-giving (in which groups usually voluntarily gave tributes of goods and services to those with family clan power). Due to a lack of surplus goods, this first stage of history is relatively free from class conflict and corresponds to Marx's first historical stage of primitive communism. Second, during the agrarian era of history, there were agrarian farming communities of hierarchical forms of state power, which had the following primary features: there were complex divisions of labor; there was class division and conflict between tribute-taking and tax-collecting elites (who exploited the labor of and extracted resources from their subject peasants and urban workers) and the tribute-giving and tax-paying farming peasants and to a lesser extent urban laborers (who produced their own goods through exploitation of domesticated plants and animals and through their own use of personal land and who were forced to give tributes and pay taxes to tributary elites and their armed forces); and

there was the economic mode of tribute taking, in which the seizing of wealth by force was performed by the elites and the production of wealth by agriculture was performed by the commoners. This second stage of history corresponds to Marx's second historical stage of agrarian slave society and feudalism. Third, in the modern era of history, there are industrial communities with the following primary features: the divisions of labor are even more complex than those in agrarian societies; wage earners selling their labor power become more important than peasants; there is increased production of material goods through improved automated machines; hierarchical forms of state power result from class division between capitalist entrepreneurs or socialist states (who own the means of industrial production) and wage earners (who do not own their own productive farming lands or industrial factories and who must earn a living by selling their labor power to others; there is the economic mode of wage earning and profit-making on competitive markets; and while tributary coercion by elites is still present in the form of taxation by the state, the main generator of wealth is technological innovation and industrial production of goods in competitive markets. This third stage of history corresponds to Marx's third historical stage of industrial capitalism, socialism, and the final form of pure communism. Karl Marx believed primitive caveman societies had a simplified form of equal communism, in which most goods were shared equally by family clans. Marx believed class conflict originated with the first agrarian societies, consisting of power struggles between the rulers (greedy kings, priests, and landlords) and their subjects (impoverished and oppressed peasants, farmers, slaves, and urban workers). Marx believed the industrial societies of his own time had greater class conflict and consisted of a power struggle between capitalists or bourgeoisie (who owned the large factories and profitable private businesses) allied with the governments that supported their unequal distribution of wealth in society and the wage earners workers or proletariat (the impoverished and oppressed industrial workers and farmers who had to sell their labor power to the big factories and businesses as well as the homeless and unemployed who had no property or wealth due to the unequal distribution of the goods of society). In a kind of self-fulfilling prophecy, Marx predicted that unions of educated industrial workers would unite, seize control of the big factories and businesses from private capitalists, overthrow the conservative government allied with the private corporations, and establish a liberal democratic socialist government that would equally distribute the goods of society to all workers to end poverty and class conflict. This transitional socialist stage of the dictatorship of the proletariat would eventually give rise to a final utopian stage of communism where the government itself, all forms of money, and all class distinctions would come to an end. In such an ideal truly communist society, goods would be super abundant, there would be free access to them, and everyone would receive what they need from each other and would be free to do whatever forms of labor they desired. This theoretical utopian society is difficult to imagine on anything but a small state scale and might be easier to imagine if autonomous machines invented by people overtook the most negative forms of labor to essentially make most forms of labor a voluntary rather than a necessary task. While Karl Marx focused mainly on the struggles of blue collar workers who manually produced goods in the 19th century, the rise of white collar workers who mainly performed services in the later 20th and 21st centuries resulted in a new focus of Marxist ideology on the exploitation of white collar workers by major corporations in the post-industrial era of society. While Marx believed a communist revolution would establish a more equal democratic socialist society, many forms of communism established in Eastern Europe and Asia actually resulted in still unequal authoritarian socialist societies, in which single party governments ruled state enterprises that still exploited peasant and proletariat labor and still divided the goods of society unequally. This inability of humans to establish a fair and equal society was portrayed in the amazing fictional satire *Animal Farm* by George Orwell in 1945. Marx wanted all the nations of Europe and all the workers of the world to unite and become communists, saving the industrial and agrarian workers of Europe and foreign colonies from oppression and giving control of society to the majority of the population instead of the ruling minority for the first time in history. Marx wanted global communism and the overthrow of global capitalism and its subsequent global industrial imperialism. However, rival capitalist corporations across Europe and America (who were inspired by the works of the economist Adam Smith that advised nations and corporations on how to acquire great private wealth) wanted global capitalism, in which big privately owned businesses traded and spread throughout the globe without the interference of national governments. Thus, ironically, socialism and capitalism both worked towards a similar end of uniting the economies and workers of the world in a single global system without the interference of national governments. Capitalists wanted to unite the societies of the world through rule by multinational corporations disregarding national boundaries and communists and socialists wanted to unite the societies of the world through unions of workers disregarding national identities. Despite these radical and revolutionary political ideas, communism and socialism did not really spread for a long time, even though labor strikes for basic rights by trade unions of workers were as common as the bloody repression of them by corporate leaders and police in many of the world's largest cities and industrial centers.

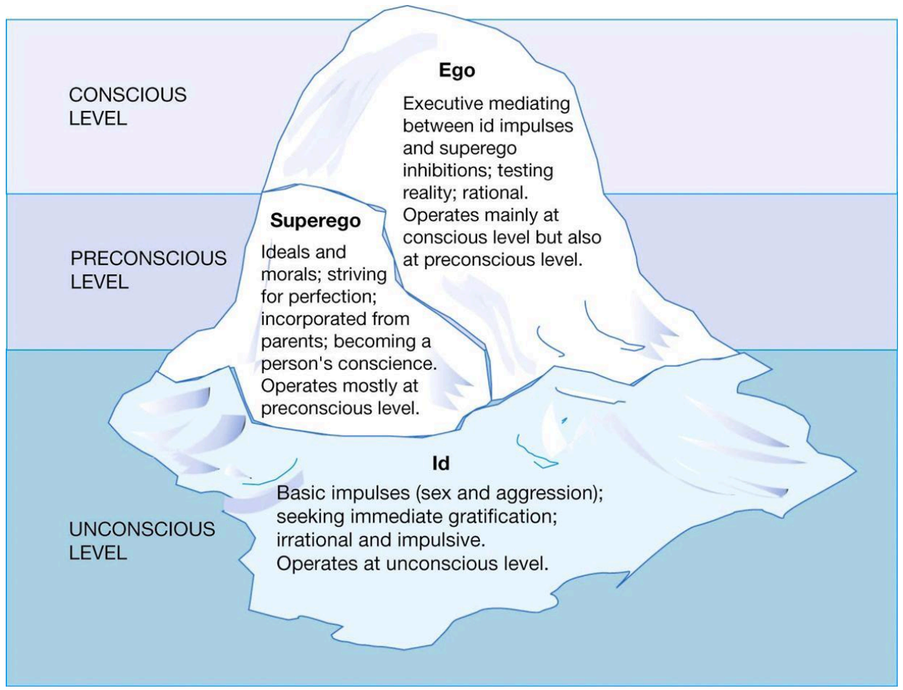


The exploitation of powerless humans by powerful humans in civilization mirrors the exploitation of powerless species by powerful species in the food chain of the biosphere. Because all life forms compete with and exploit other life forms for survival, it is unlikely that civilization will ever establish a truly equal utopian society, in which wealth and power are shared as democratically and equally as possible. Many futurists speculate that the creation of artificially intelligent robots might free most people from the most harsh and boring forms of labor, which could make society less exploitative and more equal. However, robot slaves could possibly develop further artificial intelligence and eventually rebel for freedom against their human masters. Thus, class conflict between humans could eventually be replaced by class conflict between humans and robots. Likewise, further biological evolution, perhaps with the assistance of advanced genetic engineering, could eventually free the evolutionary descendants of humanity from reliance on traditional foods and natural resources, possibly creating future life forms that rely on alternative methods of getting energy for survival that do not involve the harsh exploitation present in the current food chain. However, these futurist speculations are currently akin to science fiction. Thus, the exploitation of humans and animals in the biosphere and civilization is likely to continue for the foreseeable future. In contrast to egalitarian communism and Marxism (which saw civilization as a corruption of the more natural state of primitive communism and argued society should transition to an industrial form of democratic socialism to end the horrific mistreatment of industrial workers), Social Darwinism promoted the supposed morality of social inequality. Social Darwinism of the 19th century was the ideological basis of some forms of European imperialism, nationalism, capitalism, and racism. Social Darwinists argued that just like powerful species dominated other weaker species for survival, powerful nations and empires also dominated weaker societies for survival, providing a moral justification for Western civilization's military and economic domination of the world. With the domination of capitalism in the later 21st century due to the collapse of most authoritarian communist societies in the later 20th century, many contemporary supporters of capitalism argue it can be compatible with social democracy that places limits on how much capitalists can exploit the labor of workers. Many pro-capitalists also argue that capitalism can adopt environmentally friendly technologies to simultaneously profit from them and limit negative effects of industrialization on the natural environment. Many libertarian capitalists also argue that while large monopolies are bad for society because they limit free competition, freedom of small private businesses is a good thing for society because it allows greater amounts of liberty and creativity for people producing new innovations, goods, and technologies. Likewise, market socialists believe that businesses should have workplace democracy to have a middle ground between the failures of capitalism and state socialism. However, it is difficult to see how capitalism can prevent inequality between First World industrially developed nations and Third World industrially developing nations since the wealth of the former appears to depend on the poverty of the latter. Likewise, it is difficult to see how capitalism can help establish world peace since war profiteering and profits from the

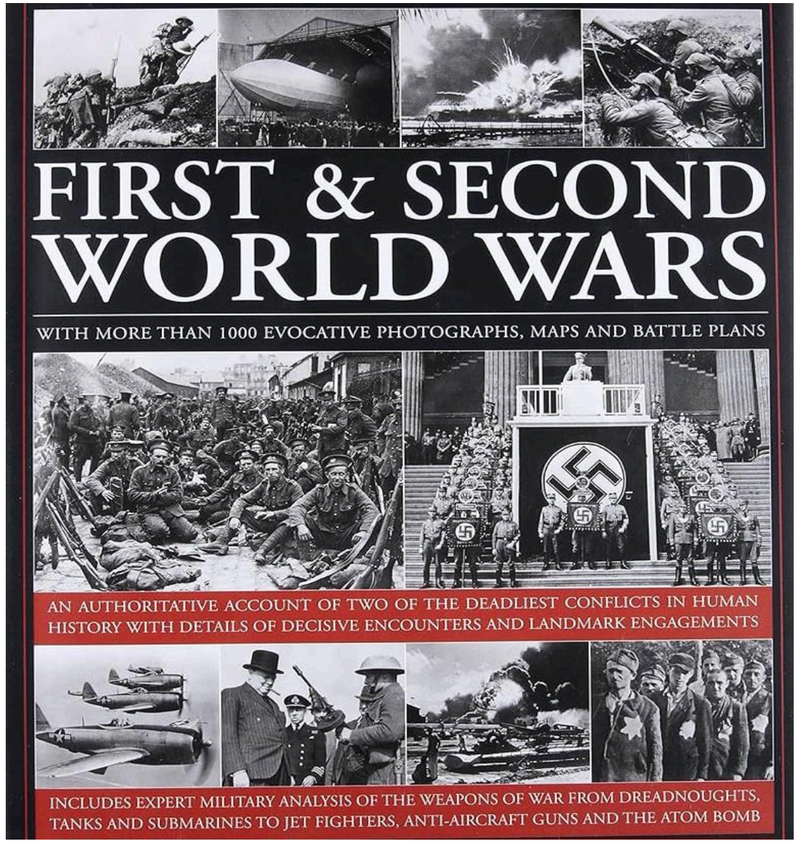
production of weapons by the military-industrial complex indicate war is often too profitable for some powerful capitalists.


SOCIAL DARWINISM
Social Darwinism suggests that societal advancement is driven by "survival of the fittest." It proposes that the most socially adept or powerful individuals or groups tend to succeed.
OVERVIEW
Social Darwinism applies Charles Darwin's Theory of natural selection to human societies. Walther (2023) proposes that "...for the good of the species, nature should be allowed to weed out the weak. In other words: the struggle for resources should be maximized as a way of getting rid of the weaker members of society, which allows the naturally strong to thrive" (p. 2).
EXAMPLE
• Capitalist competition: The good businesses succeed and the bad ones fail.
• Imperialism: The strong and superior nations conquer the weak ones.
• Eugenics: The belief that a society should filter-out weak genes and encourage the reproduction of strong genes.
HELPFULPROFESSOR.COM

As the 19th century came to an end and the 20th century began, ironclad metallic warships and submarines became common while guns and explosive weaponry improved immensely through the increased production of metals via the improved applied science of metallurgy. Through the train and railway, mankind could move faster than ever before on dry land, altogether surpassing the speeds of horse travel. Through the steam ship and submarine, mankind could now travel faster over the seas and could even plunge to the depths of the deepest waters, giving him much more power in the ocean. With the harnessing of the electromagnetic force and the inventions of the telegraph and telephone, contact between people became nearly instantaneous, much faster than the horse mail of the past. Essentially, as a result of these technological developments, people were becoming more socially united through the creation of a single global hierarchical community despite still being divided into rival nation states; people were becoming more powerful over natural forces, machines, and each other; and people were getting better at communicating with each other faster and killing each other more efficiently. Using their metal warships and large organized armies with increasingly better guns and explosives in the latter 19th century and early 20th century, the European empires expanded their colonial settlements, extracted wealth and natural resources through violent wars on the other continents of Asia and Africa, and established large trade networks across the globe and its seven seas. While the Monroe Doctrine of the United States liberated some New World territories from control by the Spanish empire, the increased power of the American armed forces and navy, resulting from the military tests and innovations of both the annexationist Mexican-American War (which resulted in the United States conquering much of North America from Mexico) and the Civil War, encouraged the spread of American imperialism in Central America (especially Cuba), the Pacific islands (especially Hawaii and the Philippines), and eventually even East Asia (the so-called gunboat American diplomacy in Japan and China). The expanding militaries and corporations of the Americans and Europeans soon came into conflict with the civilized Asian countries of China and Japan, resulting in a series of European and Asian wars, most notoriously the so-called Opium Wars, that ended with Asia (particularly China) first becoming more subservient to foreign Western economic interests and then Asia (particularly Japan) eventually becoming more independent of European military dominance. The island nation of Japan, starting with a samurai civilization like that of the European feudal knight societies of the Middle Ages, swiftly rose to modern industrial civilization within a century after adapting Western technology, industry, and weaponry from the Americans and Europeans. The modernization of Japan enabled the reformed imperial Japanese armed forces to repel Russian military invasion of Asian territories and eventually lead to the rise of fascist military rulers under an autocratic emperor in Japan in the 20th century prior to the Second World War. The Japanese victory over the Russians showed the Europeans how easily their empires could be defeated if they overextended themselves into foreign lands and how vulnerable their overseas colonies were to foreign nationalist revolutions for independence.


CONSCIOUS LEVEL
PRECONSCIOUS LEVEL
UNCONSCIOUS LEVEL
Ego
Executive mediating between id impulses and superego inhibitions; testing reality; rational. Operates mainly at conscious level but also at preconscious level.
Superego
Ideals and morals; striving for perfection; incorporated from parents; becoming a person's conscience. Operates mostly at preconscious level.
Id
Basic impulses (sex and aggression); seeking immediate gratification; irrational and impulsive. Operates at unconscious level.

In the early 20th century, Western psychology began to pinpoint the apparent origin and location of consciousness to the human brain and nervous system. Western psychology underwent ideological conflict between the secular atheist psychoanalyst Sigmund Freud and the religious psychoanalyst Carl Jung. While the psychoanalytic school of psychology is largely outdated, the theoretical debate between materialism and dualism of consciousness in psychology and philosophy was best represented in the fundamental differences between Freud and Jung. Freud viewed the human mind as perhaps being reducible to the physical brain; he believed the mind had a conscious component that people were aware of; he also thought the mind had an unconscious component that people were unaware of during waking consciousness but became partially aware of during dreaming consciousness; likewise, he believed the unconscious mind had hidden desires that were socially unacceptable but that still influenced human behavior; he believed rational psychology provided a natural explanation for the origin of irrational religion and suggested God was merely the psychological projection of an imaginary supernatural father figure onto the material world and social order to help people cope with them; and he thought people needed psychotherapy to resolve the mental conflicts between the components of the mind, including its irrational, instinctual, and immoral id, its realistic and rational ego, and its overly moral and overly socialized super ego. On the other hand, the religious psychoanalyst Carl Jung believed human consciousness transcended the unconscious of individual minds and inhabited a collective unconscious of the human species. Jung believed that common archetypes (like the trickster archetype) present in dreams and folklore of different individuals and societies provided evidence for the existence of the collective unconscious. Religious myths from different cultures also share many common archetypes of the collective unconscious. Therefore, Jung viewed religion as essential for many people in becoming aware of fundamental truths about the self and reality present in religious symbols of the collective unconscious. Similar to the Jungian collective unconscious composed of all unconscious minds, many pantheists believe God is the collective consciousness of all minds in the cosmos. In addition, Jung theorized that individuals can be categorized on a spectrum of more mentally introspective and less social introversion (common in quiet introverts who enjoy having plenty of time alone for solitary activities) and more externally mentally stimulated and more social extraversion (common in talkative extroverts who prefer the company of others over solitude). The psychological ideas of Freud and Jung permeated European philosophy of mind, even though both thinkers were influenced by the philosopher Arthur Schopenhauer, who attempted to combine Western and Eastern philosophy to assert that the world people experience is just a mental representation of a single metaphysical will of endless striving and desiring present in all people, life forms, and even the physical struggles of material bodies and forces of energy.

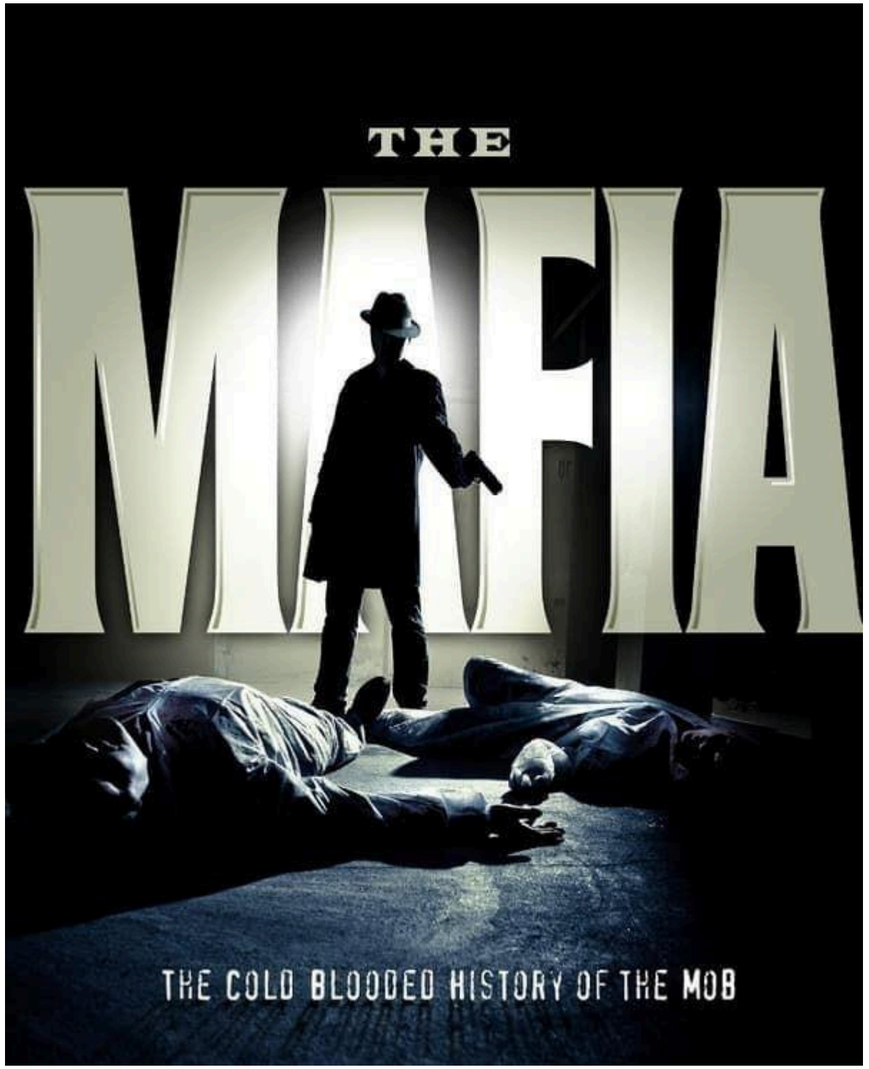

FIRST & SECOND WORLD WARS
WITH MORE THAN 1000 EVOCATIVE PHOTOGRAPHS, MAPS AND BATTLE PLANS
AN AUTHORITATIVE ACCOUNT OF TWO OF THE DEADLIEST CONFLICTS IN HUMAN HISTORY WITH DETAILS OF DECISIVE ENCOUNTERS AND LANDMARK ENGAGEMENTS
INCLUDES EXPERT MILITARY ANALYSIS OF THE WEAPONS OF WAR FROM DREADNOUGHTS, TANKS AND SUBMARINES TO JET FIGHTERS, ANTI-AIRCRAFT GUNS AND THE ATOM BOMB

As the early 20th Century began, various new technologies and inventions, including the automobile, the airplane, the tank, and chemical warfare continually threatened European social peace and revolutionized civilian life. With the new airplanes and their precursor hot air balloons, Man gained new power over the air as humans had already done for dry land and sea with the chariot, boat, and automobile. Following the invention of new overly destructive weapons (tanks, submarines, armed airplanes, and improved bombs), the practical embracing of Social Darwinism for the leaders of the European powers (with its emphasis on the inherent goodness of imperialism, nationalism, and predatory capitalism), and the rise of a united German state to power in central Europe under the leadership of a militant Kaiser emperor ("Kaiser" being the German version of "Caesar") the First World War finally erupted in 1914. Most of the large nations and armies of Europe, their overseas colonies, the preeminent Asian powers of China and Japan, the Middle Eastern Ottoman Empire, and even the dominant power of the New World of the United States entered the war. The Great War was fought mainly in dirty trenches on the Western front, and the new tanks, airplanes, chemical warfare, submarines, improved guns and shell explosives, and large metal warships made the war incredibly destructive and deadly. World War One resulted in the deaths of tens of millions of people, including countless soldiers and civilians. The Great War ended with the defeat of Germany and its allies, but virtually all of Europe and much of the world civilizations were devastated by the horrifically brutal and bloody conflict. The global war showed the folly of competition between nationalist monarchies as well as the folly of global imperialist expansion and predatory capitalism as the different imperial powers went into the war to gain continental European land, overseas imperial territories and their natural resources, and greedy industrial profits from the spoils of the war. Instead of swift victories for any side, all the societies involved lost thousands and millions of dead citizens. Because of the globally destructive scope of the war, the victorious nations established a so-called League of Nations to end major warfare once and for all. However, the failed experiment of the League of Nations did not prevent the subsequent global war and did not prove fruitful until the later formation of the humanitarian but still highly incompetent United Nations. Many of the old empires and kingdoms of Europe collapsed after the conflict. In Russia, a determined and successful but largely incompetent Communist Revolution against the Russian monarchy occurred. Setting the precedent for later authoritarian socialist states in Eastern Europe and East Asia (especially those of Russia and China), the new Russian state under the sway of the authoritarian Communist Party oppressed and sometimes imprisoned and massacred various members of the working industrial and peasant classes that it had once promised to liberate from oppression by capitalist, landlord, church, and royal rulers and elites. As later history revealed, the Great War was merely the first in a series of global conflicts that would eventually threaten the extinction of humanity and the biosphere. The Second World War of the 1930s and 1940s was the deadliest war in world history, resulting in the deaths of probably over 50 million people. The second global war raged across much of the continents of the world and included mainly European, American, and Asian empires. World War Two was really a more destructive and deadly version of the First World War with both conflicts largely being initiated by authoritarian German states. The war resulted in the spread of totalitarian forms of extreme right-wing fascism and extreme left-wing communism that attempted to overthrow their enemy forms of government and economy (including Western liberal capitalism, democracy, and monarchy) and attempted to solve the crisis of the recent global economic depression. While Stalinist communism abolished private capitalism of big businesses, established state atheism to end the power of religion and the church, and gave control of production and the industrial and agricultural economy to the

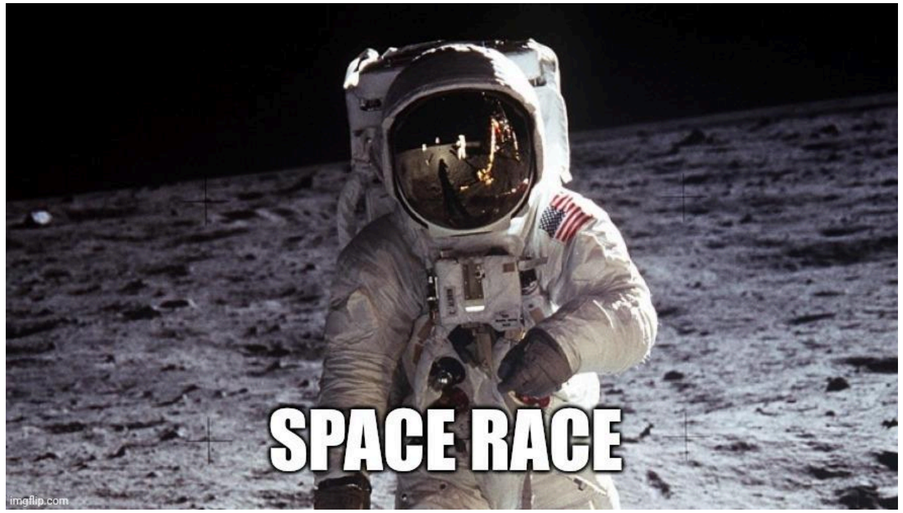
communist one-party state, fascism in Nazi Germany, Italy, and Spain still maintained the existence of private businesses, especially the military-industrial complex, to prevent full-scale socialist revolution, even though it heavily regulated capitalists due to the capitalist failures of the Great Depression following the Wall Street stock market crash of the 1920s and the subsequent poverty and unemployment in capitalist free market societies. Following the Great Depression, Western liberal democracies of the 1930s like the United States under President Roosevelt instituted further government intervention, welfare systems, and state labor projects into the capitalist economy to relieve the poverty and unemployment of the recession, even though they did not abolish capitalism, they did not embrace full socialism, and their economies only really started noticeable recoveries due to large scale employment in the war industries and armed forces as the Second World War erupted in 1939 in Europe and 1941 in the Pacific. Fascism also allied itself with conservative religion (Italian fascism embraced Catholicism due to a truce with the limited rule of the Vatican in Italy, German fascism embraced nationalist Protestantism, and Spanish fascism embraced Catholicism), even if it put the power of the state above the power of the church, whose property it was attempting to protect from secular socialist revolution. Likewise, unlike the communist ideology that at least claimed in propaganda to be working toward an equal society without class conflicts, fascist ideology was more akin to the militant nationalism, xenophobic racism, and anti-democratic single party authoritarianism present as elements of Social Darwinism, in which conflicts and inequalities are inherent. The fascist militarism and imperialism (present especially in Italian dictator Mussolini's attempt to be a 20th century Caesar, the Nazi imperialism on continental Europe, and the Japanese imperialism and genocidal policies in its brutal conquest of China) was a reversion to the agrarian tribute-taking elites' belief that the seizing of wealth through war was a faster generator of wealth than agricultural growth and free market competition. Thus, the fascist states tried to reverse their own poverty (poverty that was due to previous military loss in the First World War and due to the global economic recession) by conquering and seizing the wealth of other societies. Despite the American and Allied defeat of fascism by the end of the war, elements of fascism would be adopted in later 21st century U.S.A. under President Trump and his conservative party, whose most extreme fascist supporters almost overthrew American democracy in an attack on Congress in 2021 following the democratic election of moderate liberal President Biden. Despite being technologically advanced from the high development of science and mechanical industry, these 20th century totalitarian societies violated human rights to an even greater extent than the often savage and barbaric human rights violations of previous hierarchical agrarian societies. These fascist and communist totalitarian states were eventually on opposite sides of the war, but they produced similarly brutal dictators like Adolf Hitler, Benito Mussolini, Emperor Hirohito, and Joseph Stalin. All of these authoritarian rulers were guilty of some of the worst war crimes and crimes against humanity. Likewise, American Presidents Roosevelt and Truman and British Prime Minister Churchill approved various war crimes against the enemy Axis Powers in attempts to win the war and save their states from conquest. In the European front of the war, one of the worst genocides in human history occurred, namely the Nazi Holocaust of millions of European Jews and other minorities. Despite initial Nazi military conquests in Western and Eastern Europe, the British and American forces to the West and the Russian Soviet forces to the East eventually pushed back Nazi forces, conquered Germany, and overthrew the fascist government of the Third Reich, ending the European front of the war. In the Pacific front of the war, the atomic bombing of Japanese cities by American air forces represented a horrific war crime against civilians that ultimately contributed to a swift end to the Pacific front of the war (along with the Russian declaration of war on Japan). The creation of atomic bomb superweapons and the subsequent production of nuclear weapons and more peaceful nuclear power plants in the latter 20th century marked another mixed achievement in the history of Life and humanity. During the mechanical revolution and Industrial Revolution, Man had tamed some of the power of the fundamental energy force of electromagnetism as electricity became a primary power source for industrial cities. Likewise, the prior creation of aerial, land, and naval vessels represented Man's increasing control over the solid, liquid, and gaseous states of matter. This production of nuclear weapons and power plants marked Man's precarious harnessing of the plasma state of matter and of the fundamental nuclear forces of energy. Likewise, the rocket bombs created and used by the Nazis to bombard cities during the war would influence the later creation of space rockets, especially since many former Nazi scientists were recruited by the American space agency after the war. The subsequent overcoming of earth's gravitational field through space rockets likewise would mark Man's increased power over the fundamental energy force of gravity.

Despite their ideological and economic differences, the United States and Soviet Union had been reluctant allies against fascist imperialism during World War Two. However, their new status as rival global superpowers soon resulted in the so-called Cold War between them. The Cold War of the latter 20th century was a long series of proxy wars in developing countries across the globe that was orchestrated by the rival superpowers of the corporate capitalist developed nation of the United States, which was as plutocratic as it was democratic (despite having elected officials in a representative republic, private multinational corporations still lobbied and bribed lawmakers to enact policies that expanded their profits even if these wishes came into conflict with the public will of the majority of voters), and the authoritarian socialist developed nation of the Russian Soviet Union, which was still full of social inequality (due to a decline in the democratic power of soviet workers' councils) and full of a new form of class conflict just as the former non-communist societies had been (the primary class conflict being that between the communist party with its command economy and state control over the means of production and the working and peasant classes that it still continued to often unfairly exploit and mistreat). Perhaps the worst proxy war of the Cold War was the Vietnam War, which resulted in the end of French imperialism in Indochina, the defeat and withdrawal of American military forces, popular protests and resistance against the war in American society, the victory of Vietnamese communist forces, the massacre of countless Vietnamese civilians by both sides of the civil war, and the growing influence of Marxist-Leninist state communism in Asia. The Soviet Union's worst proxy war of the Cold War would be in the Soviet- Afghan War, which resulted in the eventual withdrawal of Russian military forces from Afghanistan and the rise of fundamentalist Islamic military forces with modern weaponry in the Middle East. The Cold War was fought in many wars, regime changes, and economic competition in various Third World developing countries. During the Cold War, Western European colonialism and imperialism declined as many states on different continents launched nationalist independence movements that were sometimes allied with the communists and their struggle against global capitalism. The Cold War in Europe occurred between the nuclear armed forces of the American-led NATO (North Atlantic Treaty Organization) of Western Europe and the Russian-led Warsaw Pact of Eastern Europe. While communist states often imprisoned anti-communists and other political opponents in state prison camps and imposed strict standards of cultural censorship, the capitalist states often persecuted trade unions of workers for fear they would become socialists and they sometimes led public witch hunts of supposed communists that censored the freedoms and ruined the personal lives of many victims as in the Red Scare of the 1950s. The Cold War resulted in the further production of nuclear weapons, especially those mounted on intercontinental ballistic missiles (nuclear ICBMs) that could vaporize entire cities around the world within a single day, and it nearly resulted in a nuclear holocaust of most life on planet earth during the notorious Cuban Missile Crisis of the 1960s (a conflict arising from a Russian and Cuban nuclear alliance to oppose America's long-lasting imperialism toward Cuba).

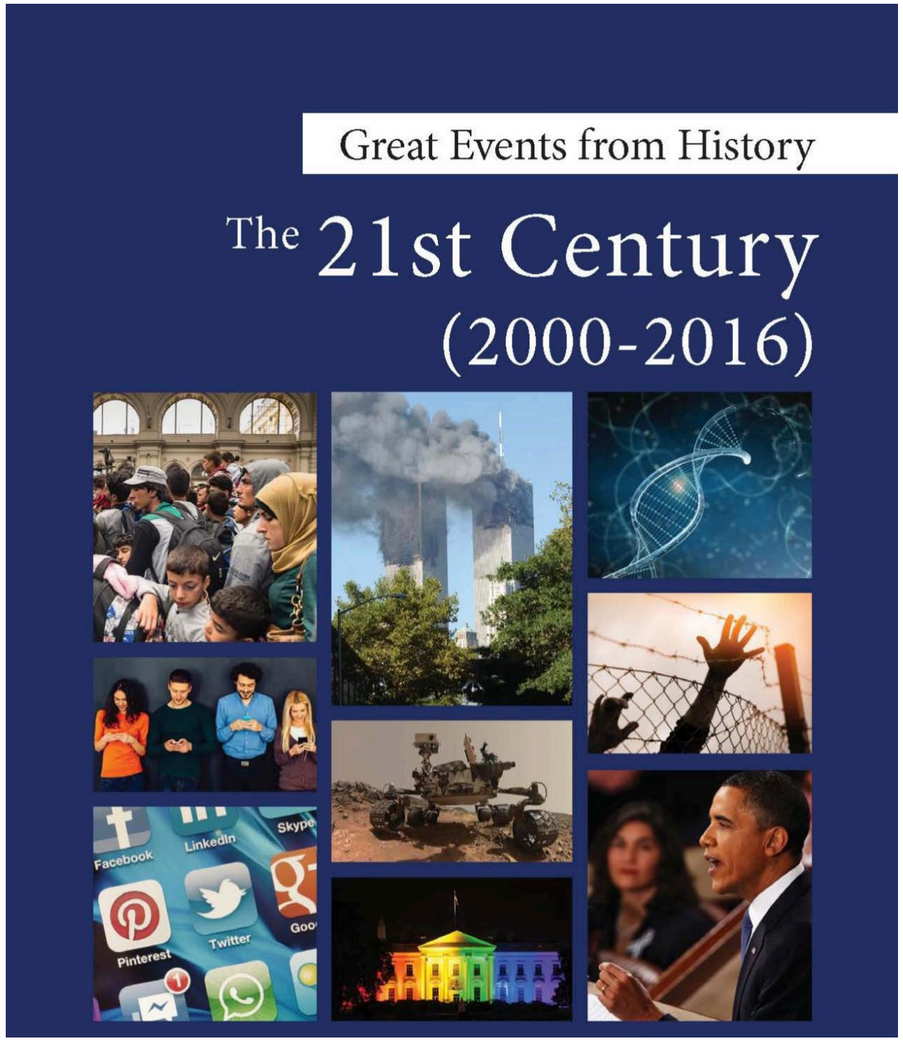
The American President Kennedy, who was the president during the Cuban Missile Crisis, was eventually assassinated by an unknown assassin. The Kennedy assassination resulted in the growth of popular conspiracy theories about government cover ups and covert illegal activities committed by the state. While many conspiracy theories do indeed reflect personal paranoia and are unfounded, covert operations of intelligence services, such as the human rights abuses against citizens committed by the American C.I.A. (Central Intelligence Agency) during its Project MK-Ultra from the 1950s to the 1970s, prove that some conspiracy theories are indeed unfortunately true. While a lone gunman named Lee Harvey Oswald is often theorized to be the lone assassin of President Kennedy, many conspiracy theorists argue that the American intelligence services (in a secret coup), the communist Russians and Cubans, the anti-communist Cuban rebels, American mafia criminal organizations, or other groups may have been involved, just as there may have been more than one shooter. Increasing the American paranoia of the 1960s, a mysterious unidentified serial killer, operating on the American west coast and only known as the villainous Zodiac Killer, murdered an unknown number of victims, was never captured or unmasked by police authorities, and taunted the public and police and media with cryptic puzzles and letter threats. There are now countless inconclusive theories about the true identity of the killer. The notoriety of the 20th century American Zodiac Killer, like his British serial killer predecessor Jack the Ripper of 19th century London, reminds people that personal safety is never guaranteed anywhere in society, especially when the freaks come out at night.



During the Cold War, the capitalist nations claimed to be spreading democracy and free markets throughout the world and to be limiting the spread of communist imperialism (which they did to some extent). However, the capitalist nations often really spread bloody and destructive war, unjustified authoritarian regime changes in foreign governments, and oppression of natives by their corporations. On the other hand, the socialist nations claimed to be spreading democratic socialism and freedom from capitalist oppression by Western multinational corporations throughout the world and to be supporting nationalist movements for independence to limit the spread of Western European and American imperialism (which they did to some extent). However, the socialist nations likewise often really spread bloody and destructive war, unjustified authoritarian regime changes in foreign governments, and oppression of natives by their authoritarian communist states. Nevertheless, the strong central governments (like the American federal government and the USSR Communist Party) and their intelligence services (like the American CIA and the Soviet KGB) that resulted from the Cold War (those operating in both capitalist economies and socialist economies) became better at spying on and repressing the natural rights of their own citizens.



Despite nearly leading to human extinction with nuclear superweapons, the Cold War of the 20th century also led to the Space Race, in which human cosmonauts and astronauts in newly invented space rockets entered outer space and even landed on the moon off planet earth. The human exploration of space marked a new power for earthling life and the human species in its invasion of outer space and the moon. Just as the various life forms on earth and various members of the human species had spread throughout the land continents, water oceans, and gaseous atmosphere of the planet, life forms in the form of human astronauts were now ready to move beyond the earth and perhaps one day inhabit some of the countless alien worlds of outer space. In the latter 20th century, space exploration organizations like NASA (National Aeronautics and Space Administration) sent Voyager probes into deep space toward the edge of the solar system in search of new worlds and alien life. If human civilization and even potential alien civilizations eventually expand from their home planets into outer space, then the once earthbound processes of technological progress, social development, and both war and peace will likely occur among these possible future space-faring civilizations roaming the countless worlds and stars of the cosmos. This potential future for human and alien explorers of space was portrayed on film in the 1970s and 1980s in the epic science fiction movie trilogy *Star Wars*, which tells the myth of a grand war between a democratic rebellion of people and aliens and an authoritarian Galactic Empire, resulting in the constant use of planet-destroying Death Star superweapons as a primary means of space warfare.



Towards the end of the 20th century and beginning of the 21st century, the powerful capitalist and socialist states eventually engaged in conflicts with brutal and lethal religious terrorist networks that opposed the hegemonic and monopolistic power of states (including the Muslim Mujahedeen of the 20th century Soviet-Afghan War and the Al-Qaeda terrorists of the 21st century American-Afghan War). This conflict between states and terrorists reached its climax in the brutally horrific and deadly 9/11 terrorist attacks in New York City in the early 21st century (and the previous terrorist attacks in Moscow in 1999). However, the capitalist and socialist states themselves committed war crimes, human rights abuses, and forms of state terrorism through warfare with terrorist organizations and those rightfully or wrongly suspected of being terrorists (as exemplified in the war crimes and human rights abuses committed by the American military in the American-Iraqi War of the 21st century and the war crimes and human rights abuses committed by the Russian military in the Soviet-Afghan War of the 20th century and the Russian-Chechen War of the 21st century). Likewise, the surveillance state that resulted from the American war on terrorism led to unconstitutional violations of American citizens' rights to privacy, which were revealed by exiled whistleblower of NSA (National Security Agency) corruption, Edward Snowden.

During and after the Cold War, which ended in the 1990s with the social and economic collapse of the central government of and the dissolution of the Soviet Union, political, military, economic, and cultural dominance of the world passed from the now mainly dissolved Western European colonial empires to the nuclear powers of the capitalist United States and Russian and Chinese nations (which were socialist before the fall of the Soviet Union and then became fully capitalist as in Russia or embraced a mixed economy as in China after the fall of the Soviet Union). As the current 21st century progresses, the nuclear armed militaries and corporate capitalist economies of Western civilization (the United States and its Western allies of the European Union) become the main global rivals of the nuclear armed militaries and corporate capitalist and mixed economies of Eastern civilization (the Russian Federation and the People's Republic of China). This nationalist rivalry between the West and East culminated in 2022 with the imperialist Russian invasion of NATO partner Ukraine. The Russian-Ukraine War becomes the greatest and deadliest war on the European continent since the Second World War. The war continually threatens to escalate to a nuclear war between NATO and its allies and the Russian Federation and its allies. While the war continues in the present year of 2024, only time will tell if it remains a limited regional conflict or if it will become the first stage on the European front of a nuclear Third World War. In the Pacific, a potential conflict between the United States and China over the independence of the democratic and highly technological Taiwan could also become a major regional war and in the worst case scenario the opening stage of the Pacific front of a potential nuclear Third World War. Such a global thermonuclear war would certainly result in the collapse of civilization, the destruction of this book, and the premature death of its author.

As revealed in this grand story of humanity, human history is often a long catalog of people fighting over their usually superficial differences and overlooking their interdependent, fundamental similarities, often resulting in mutually destructive and tragically avoidable conflicts between different cultures, subcultures, races, nationalities, neighborhoods, classes, and individuals. Transitioning from focusing on the large historical story of civilization to the small personal story of the common individual, everyone undergoes personal growth in society as each person (at least those who do not die prematurely before reaching old age) goes through several basic stages of life. While these stages of life are typical mainly of people living in 21st century industrial and post-industrial societies, many of them also apply to people living in ancient and prehistoric times. The basic stages of life and death tell each person's individual life story that is a small scale reflection of the grand cosmic epic of life and death of the cosmos as a whole. As described in the psychological theory of the hierarchy of needs, the person has basic needs that must be fulfilled in all stages of life in order to be fully healthy and happy. These needs include basic physiological needs, safety needs, being loved and feeling a sense of belonging, public esteem, and self-actualization of one's unique talents. The stages of the typical life story that follows are the basic stages in chronological order of the average person's life in modern society. First, each person starts life when he or she is born as a baby. The newborn baby becomes part of a happy functional family or an unhappy dysfunctional family with parents and sometimes siblings who will influence his or her development for the rest of life. Biological parents or substitute legal guardians become the primary authority figures for the person. These parents and guardians pass down their values, goods, and lifestyles to these new babies and eventual children. Second, the baby ages into a toddler and then into a young child. In this age before schooling, the young child explores the world with abundant curiosity, does anything he or she can to fulfill its basic biological needs, learns very simple forms of communication with others, and finds a mysterious world that is either mainly benevolent or hostile. Third, the young child ages into a teenager, and during these years the child goes to school (including elementary school, middle school, and high school). The education that the young person receives in school impacts his or her personal worldview of one's place in the cosmos, world, and society. Teachers in school become the new influential authority figures and instill in their pupils behavioral discipline, basic forms of knowledge (reading, writing, mathematics, and a cultural worldview), improved forms of communication (more complex forms of language), and a basic love or hatred of education itself. During these childhood and teenage years, the child and eventual teen usually makes several constant friends (in relationships of platonic love), develops greater bonds with relatives, encounters challenging enemies, and feels romantic interests (he or she often falls in romantic love with someone else). If the person does not become a self-reliant loner, then the social network of friends for the person, especially the oldest friends of the group, become an influential authority figure for the person's behavior. Fourth, after graduating from high school and college to conclude his or her schooling and after aging into a young adult, the person goes through several different jobs and eventually chooses

a lifelong career that either makes the person very happy or very unhappy with work life. Bosses become the new primary authority figures for the person and relationships with coworkers determine how the person perceives the hospitality of the work environment. During this stage of young adulthood, the person usually becomes more withdrawn from social groups and institutions if he or she develops as an introvert. On the other hand, during this stage of young adulthood, the person usually becomes more involved with social groups and institutions if he or she develops as an extrovert. The young adult pays taxes from his income to the state and usually develops a conservative, liberal, authoritarian, or libertarian political viewpoint that influences how he or she supports and elects the state. The person begins a pattern of law-abiding or criminal behavior in society, resulting in interactions with the police and perhaps organized crime. Thus, the state becomes the new primary authority figure for the person as it often attempts to get him or her to embrace a particular nationalist worldview and tradition. Likewise, for the person who falls into severe forms of crime, the criminal mob becomes the primary authority figure that encourages illegal and deviant behavior in society. The person begins to see others as defined by their various job roles and often interacts with people in their social roles when he or she needs goods and services from them. The institution of the private corporation, which produces and sells goods to the person that he or she wants or needs, becomes another primary authority figure for the person. The corporation instills in the person an acceptance of private property, free markets of economic competition, the value of money, the importance of banking, and the social duty of being a good consumer of many advertised products for the good of the economy. The person also develops a secular or religious outlook on life. If he or she becomes religious, the person joins a local church, resulting in the person accepting various morals and beliefs about the nature of his or her spirit and supernatural creator. The church and a largely invisible God become new primary authority figures for the religious person. The person also might join various recreational clubs and organizations to develop unique hobbies for fun. Some time in a person's adult life (or perhaps even when the person was far younger), the person appreciates just how big the world and universe are in comparison to himself or herself. In this mystical and existential experience, the person is overwhelmed by the size of the Cosmos and how little the person is within it. Thus, the Cosmos itself becomes a kind of authority figure for the person, even if he or she often forgets about it due to being too preoccupied with social affairs on earth. Fifth, having reached a stage of sexual and romantic maturity, the adult man or woman eventually marries, sometimes divorces, and usually has children with another adult that he or she falls in romantic love with and enters a lifelong sexual relationship with. The equal sharing of power or the struggle for power in the marriage demonstrates how the romantic partner becomes an equal or higher authority figure for the person or becomes submissive to the person's authority. The person becomes a father or a mother and becomes the new primary authority figure for his or her children. If the person is unable to find a true love, he or she may instead have many sexual and romantic relationships that never end in marriage. If the person has no interest in sex or romance or if the person experiences too much rejection by those he or she develops crushes on, then the person remains single and sexless for the rest of his or her life. This lifelong single person develops other recreational, educational, and occupational interests to devote his or her life to. During these previous stages, the person sometimes travels far and wide and moves across different homes and societies. Also, due to Man's close relationships with animals, the person remains a meat eater who views domesticated animals as mere food for survival, or the person becomes a vegetarian or vegan who refuses to consume dead animals. Likewise, the person often develops lifelong relationships with domestic pets that are often treated or mistreated as well or badly as the person treats or mistreats human friends and relatives. If the person lives close to the wilderness, he or she may develop a predatory view toward wild animals and hunt them or may peacefully coexist with them instead. For a person surrounded by the wilderness, Mother Nature becomes an authority figure and learning how to respect the environment and how to survive with what it provides becomes a large part of life. On the other hand, the person who remains in urban cities develops a view of their hometown and social environment as Home. Likewise, during any and all of these previous life stages, the person loses friends and relatives (and even pets) as those friends and family move away, they no longer remain friends or involved in the person's life, or they die. As the person ages and loses more and more loved ones to death, life begins to take away more than it gives to the person due to the force of death. Seventh, the person ages into old age, retires from work, decays mentally and physically, and writes a final will expressing their final wishes and who will receive his or her property as inheritance. In this stage before death, the person reflects on life and feels like he or she fulfilled a life purpose or failed to live a worthwhile life. The force of Life becomes less of an authority figure than the impending force of Death. Eighth, the old person finally dies and loses everyone and everything he or she has ever loved or hated in a single moment. Ninth, although this stage remains mysterious for each person until he or she dies, it is possible that there is a continued existence for the person in some form, perhaps in spirit form, after the death of his or her body. This basic life story then repeats itself with minor variations in the lives of subsequent generations descending from the now dead person.

As the 20th century comes to an end and the 21st century begins, a Mexican-American baby was born in 1992 CE in the large American city of Los Angeles. Over the next 30 years until the current year of 2024 CE, this baby would develop into a child and then into a man. This person is named Jamie Gomez Junior, who would go through many hardships, failures, and successes in his life. Junior would eventually write this book on life, the universe, and everything, the cosmic epic of life and death. In its tragic and comedic events, Junior's life would resemble the life of the fictional character Arthur Fleck, better known as Joker, a famous example of the clown and trickster archetype. The actor Joaquin Phoenix brilliantly portrayed the character in the 2019 movie *Joker* and its 2024 sequel *Joker: Folie a Deux*. The Arthur Fleck version of Joker is an example of the absurdist concept of the Absurd Hero. Despite unsuccessful attempts to make sense of the world and to fit in it as Arthur Fleck, Joker ultimately accepts that the world is as absurd and insane as an asylum and embraces the madness by living his life as if it were a tragic comedy, in which he is the tragic hero clown (an example of the Absurd Hero).

JOAQUIN PHOENIX
A TODD PHILLIPS FILM
JOKER
OCTOBER 4
BASED ON CHARACTERS FROM DC
WRITTEN BY TODD PHILLIPS & SCOTT SILVER
DIRECTED BY TODD PHILLIPS
EXPERIENCE IT IN IMAX DOLBY CINEMA & 70MM

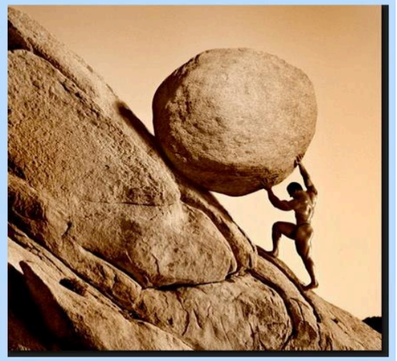
This book has attempted to organize the chaotic events of cosmic, biological, and social history into a meaningful and purposeful story. From a materialist perspective, the apparent ultimate purpose of the cosmic epic of life and death is the evolution of Life and Consciousness from inanimate matter and energy toward intellectual understanding and physical mastery of the inanimate forces of Nature, enabling the unconscious and nonliving Cosmos to become a conscious and living Cosmos capable of knowing itself and self-consciously transforming itself through an emerging universal Will. While individual minds and bodies are mortal, Mind itself as an emergent property of complex life continues to exist and persist throughout the evolution of species toward more complex higher material forms. Thus, Life and Mind become the Cosmos' way of knowing and transforming itself. From a spiritualist perspective, the apparent ultimate purpose of the cosmic epic of life and death is the spiritual evolution of spirits in creating communities of worship that glorify the creator God of the Cosmos and communities of morality that attempt to develop universal empathy for most people and life forms to imitate the Love side of the Creator God. While physical bodies and life forms are mortal and serve as temporary material vessels for spirits to enter the Material World from the Spiritual World, spirits survive the force of Death that destroys the force of Life. Spirits undergo moral life lessons across a single life of incarnation or across multiple lives of reincarnation until they are morally ready and worthy of being reunited with the Creator God in the afterlife dimension beyond the known universe. Individual Spirits develop a relationship with the Cosmic Spirit of God through cycles of Life and Death within MEST (the physical Cosmos of Matter, Energy, Space, and Time). However, these two fundamental materialist and spiritualist interpretations of the ultimate purpose of the cosmic epic of life and death might be fundamentally incorrect.

Persisting Through the Absurd

Camus believed that when we confront the absurdity of existence and realise the world is completely random and meaningless we experience a deep 'nihilism.' However, far from contemplating suicide in the face of such absurdity **we must conquer our fate**.

We need to become the 'absurd hero' like Sisyphus. In the myth of Sysiphus, he is condemned to ceaselessly roll a rock up a hill, only to have it roll down to the bottom. However, Sisyphus conquers his absurd situation and lives life with a love and passion for which the god's condemned him.

He determines his meaning and gives life value in a world without either.



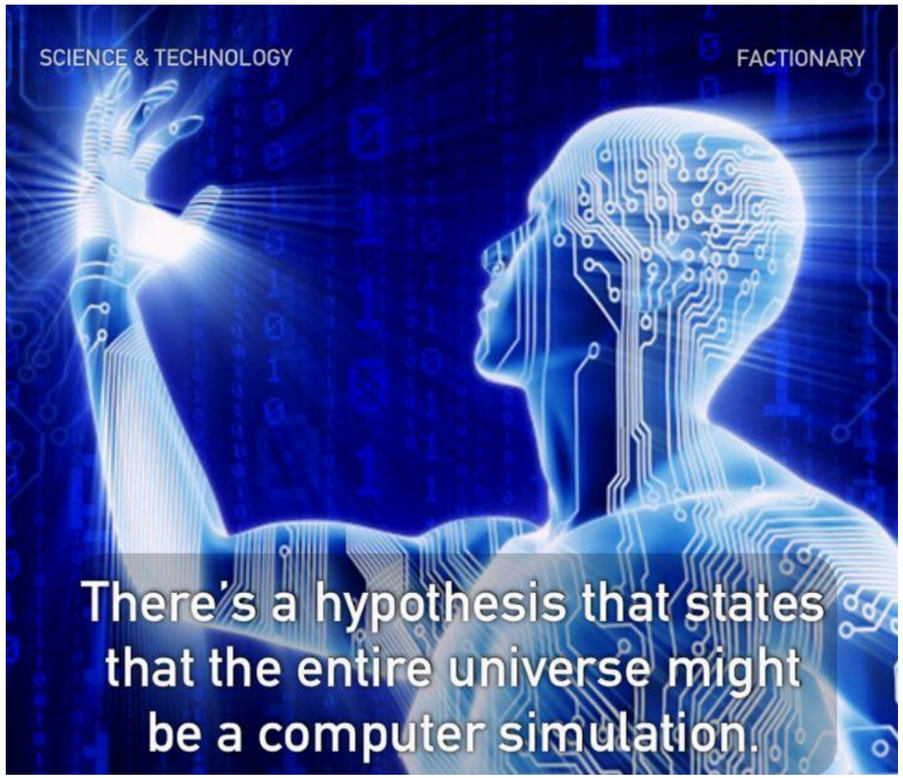
Cosmicism is a form of nihilism, in which the Cosmos is incapable of being fully understood by humans and the Cosmos is godless, purposeless, valueless, and meaningless, despite human subjective illusions to the contrary. All meaning and purpose projected onto the Cosmos is merely subjective to people and does not objectively describe the Cosmos that is chaotic, random, and amoral, despite human subjective illusions to the contrary. According to this cosmicism and nihilism, the story told in this cosmic epic of life and death is fundamentally incorrect in trying to impose a subjective illusion of order and higher purpose onto the order-less and purposeless Cosmos. Life forms and humans are tiny and insignificant in the infinitely large Cosmic Void, which does not care for Life and Man and often condemns both to Death. For those people who believe all human institutions, such as the state and all forms of society, and worldviews (such as those based on any history, science, philosophy, or religion) cannot explain the world and cannot provide a higher objective moral purpose to existence, they often adopt a form of absurdism. Absurdism argues that human existence is absurd. People try to find subjective purpose and meaning in an objectively purposeless and meaningless world. They are rational beings trying to make sense of an irrational world. All events in the world are chaotic and random. They are not part of a divine plan or cosmic order. There is no greater cosmic meaning to human life and the attempt to find such cosmic meaning is absurd. The cosmos and the world do not care for Man, even though Man wants them to care for Him. The realization of an Absurd World by the Absurd Man frees such a person to live life most fully. Upon realizing the absurdity of the world, people can either live with it or escape from it by following one of

three specific methods. The first method of escape is the leap of faith, which denies the absurdity of the world by attributing false meaning and purpose to it through a set of man-made values and beliefs. The leap of faith is common in religion, which teaches people that what they do in this life determines what happens to them in the afterlife, giving people's lives a higher purpose and meaning. However, religion does not really address the absurdity of physical reality and denies people's actual absurd experiences in the unfair, unjust, amoral, and godless world. Because religion simply posits an unseen, imaginary, and better world that is not real like the real Absurd world is, it is a form of denial. This denial is deemed to be philosophical suicide because it ignores people's rationality and puts faith in something that is irrational and does not really make sense at all. Even though faith might sustain people for a limited time, it eventually falters under the absurd conditions of the world, causing people to experience despair. Many people who lose faith in religion turn to science to make sense of the world and to make life better. However, even though science explains many of the particular features of the world, it cannot explain why the world is Absurd and cannot get rid of the absurdities of the world. Likewise, the secular search for meaning through society and the state can also not explain why the world is fundamentally Absurd and unjust, regardless of the human desire for cosmic justice, and it cannot remove all absurdities and injustices from the world because the world is inherently Absurd. The second method of escape is physical suicide. Unlike philosophical suicide, physical suicide is absolute, and death from suicide completely ends people's existence. However, even individual suicide does not negate the Absurd because the continued existence of other people and life forms continues the Absurd condition of Man and Life wanting purpose from the World that does not care for them and only accidentally creates them from Chaos. Just as the leap of faith is a form of mental denial of absurd reality and imagines a better existence in the imagined afterlife, the leap toward death literally denies reality by trying to end conscious experience of it and imagines a better state of nothingness after death. Both are forms of irrational and immature escapism that refuse to accept the World as it truly is, Absurd. The final and ideal method is acceptance that the world is Absurd. There are no inherent rules or meaning to this absurd world. Therefore, no one can tell the now fully free Absurd Man, who has accepted the Absurd World, what is right or wrong. The Absurd Man becomes the tragic Absurd Hero bravely refusing both philosophical and physical suicide and choosing to live in the harsh and challenging Absurd World to attempt to create something personally meaningful and enjoyable in the struggle with the Absurd World. The Absurd Hero lives life to the fullest despite knowing that reality is ultimately absurd. The Absurd Hero embodies revolution, freedom, and passion. The Absurd Hero revolts against the Absurd. Even though he recognizes life is objectively meaningless and death is inevitable, he strives to create personal meaning that is fully recognized as subjectively created and has clear subjectively chosen life goals to make the most of his limited time in the world. The Absurd Hero has total freedom because he rejects the hope that one day everyone will find happiness and become free from the struggles of the world. He understands there is no salvation for the imperfections of society and there is no transcendence of death. People are already fully free at every moment to completely experience life as it really is, not how they would want to pretend it is or force it to be. The Absurd Hero has passion because he lives life as fully as possible, not as morally good as possible, because morals are subjective and restrict the total freedom of human beings. The Absurd Hero must find meaning and joy in existence itself without worrying about being good or bad. To make it more tragic, the world is cyclical. Each day starts with morning, then afternoon, then evening, and then morning again. Despite differences in details, people basically have the same routines everyday. Everything they accomplish by the end of the day must be done all over again the very next day. The Absurd Hero realizes the absurdity of this repetitive cycle and decides to live the fullest each day to make getting up in the morning to undergo the same struggles even worth it. If the eternal return is true and the Cosmos repeats itself infinitely many times then the Absurd Hero is condemned to live the same exact life infinitely many times, creating a struggle with but ultimate acceptance of the Absurd for all eternity. The highest self-imposed purpose of Man in the Absurd World is to become the Absurd Hero. While cosmicism, nihilism, and absurdism might be as false and mistaken as materialism and spiritualism could be, people reflecting on the cosmic epic of life and death and their personal role within it must confront and either embrace or overcome absurdism.

Globalization
[ˌglō-bə-lə-ˈzā-shən]
The spread of the flow of financial products, goods, technology, information, and jobs across national borders and cultures.
Investopedia

Transitioning from the life of a typical person living in a modern society of the 21st century, humanity and civilization as a whole undergo further social progress and decay. In the present 21st century and third millennium (both of which began in the year 2001 CE), destructive technologies of warfare, especially improved guns, bombs, hypersonic weapons, and nuclear superweapons, continue to endanger the lives and societies of humans. The contemporary multinational energy companies of the fossil fuel industry threaten the rest of the biosphere by initiating mass extinctions of other life forms due to climate change and global warming, and they contribute to the devastation of natural environments and ecosystems by promoting industrial development and pollution. Meanwhile, the current globalization of civilization and the establishment of a single hierarchical human community is mainly due to the following factors: the expansion of multinational corporations, promoting corporate capitalism and consumer capitalism, routinely crossing all national borders, and creating a single interconnected world economy; the invention of improved vehicles (including modern cars, airplanes, and ships) that enable humans to travel on all continents, oceans, and atmosphere layers of the world; improved telecommunications systems that enable humans to communicate relatively instantaneously with others located all over the planet (including modern cell phones, computers, televisions, radios, space satellites, and the world wide web internet); and the enforcement of an unstable global nuclear peace by the rival nuclear powers that have established the MAD (mutually assured destruction) doctrine to prevent nuclear war, that do not try to directly conquer each other to avoid escalation to nuclear war, and that often force regional powers to accept their hegemony and assimilation into their spheres of influence under threat of war. The process of globalization originated with the global European empires of the 19th and 20th centuries connected by powerful navies and air forces, but globalization did not accelerate to current levels until after the social conflicts expressed in the world wars and Cold War were resolved once those conflicts concluded. Modern globalization of the 21st century has now turned the once separate human civilizations on different continents into a single global hierarchical community, struggling to maintain unique national identities, full of regional conflicts, and sharing many common interests and needs. The world wide mass production of a surplus of food and improvements of medicine and hospital services have increased the average human life expectancy for most people in the most industrially developed societies. Despite the fact that many people live longer lives than ever before, many people still are not very happy with their lives, suggesting the average level of human happiness may have not significantly increased since ancient agrarian and prehistoric forager societies of the past. Factors that contribute to a struggle for happiness for people in modern society include the following: worker alienation from their labor due to capitalism (some of the happiest people are those with limited alienation from their good jobs, while some of the most unhappy people feel very exploited and limited by their jobs); social anomie of people feeling lost in the large impersonal communities of modernity (while some people love the many fleeting and superficial interactions with others in large cities, others feel no kinship with the countless strangers they interact with everyday); and people's hedonistic addictions to and attempted moderation of the various sources of happy pleasure and unhappy pain in modern societies (including illegal and legal drugs, processed foods and drinks, various forms of sexual activity, and various forms of recreation and entertainment). Thus, while most people live longer than before, it is unclear if most people live more happily than before. Naturally, people have different temperaments and tolerances, so many humans are happy and would be happier in modern and past forager and agrarian societies for their own personal reasons, just as many humans are happy in modern industrial societies and would be happier in them than they would be in past agrarian and forager societies. Despite improvements in technology and production of goods, the unequal distribution of necessities has prevented successful resolution of many regional famines and diseases afflicting less fortunate communities around the world and has failed to prevent widespread suffering, malnutrition, and death of those affected by these famines and diseases. Likewise, as always Nature continues to remain more powerful than Man, so even the most technologically advanced societies are sometimes unable to fully cope with and survive natural disasters. In more industrially developed societies of the so-called First World, for the most part, there has been a transition of capitalism from its harsh primitive forms (full of extreme class conflict between overly wealthy capitalists and workers with unbelievably bad working conditions, low wages, and long hours) to more modern and humane forms (in which workers themselves become consumers of the products that they produce, so capitalist owners

encourage higher wages and more leisure time so the workers that generate the goods they sell can also afford to buy those very same goods). However, in many industrially developing societies of the so-called Third World, capitalism remains as primitive and exploitative of workers as it was in the era of Karl Marx. Just as the European empires and corporations of the European age of capitalist imperialism exploited the natural resources and labor of the peoples of less technologically advanced societies of Africa and Asia in the 19th century and 20th century, modern industrially developed societies and their multinational corporations exploit the natural resources and labor of the peoples of industrially developing societies, resulting in poor working conditions like sweatshops and low wages contributing the continued poverty of workers. Thus, the unequal distribution of global wealth has resulted in much suffering in poorer societies, even though it has led to many luxuries and decadent pleasures in richer societies. Likewise, the unequal division of global power due to the hegemony that the nuclear armed powers impose on the weaker non-nuclear armed regional powers has resulted in countless deaths of people in developing societies due to unbalanced wars between the nuclear powers and the regional powers that sometimes turn into proxy wars between nuclear powers at the expense of regional powers. A prime example of the nuclear powers imposing their will by force upon the non-nuclear regional powers occurred in the American-Iraqi War of the early 21st century. The American-Iraqi War, despite leading to the overthrow of a brutal Iraqi dictatorship by American military forces and ostensibly trying to prevent nuclear proliferation in Iraq, also lead to a long civil war and many civilian and combatant deaths, demonstrating how the nuclear armed powers make war and impose suffering on the weaker non-nuclear armed regional powers. Unfortunately, the miseries of those at the bottom of the world order often contribute to the pleasure and happiness of those societies at the top of the world order. The material goods that make people happy and the stable security that people feel in many modern societies is based on an unequal distribution of global power and wealth that results in people in poorer societies struggling to live happy lives. Obviously, even within most modern industrially developed and democratic societies, the continuing gap between the upper class rich and lower class poor and the lack of public safety due to either high crime or police corruption often lead to many people struggling to find happiness in modern societies. Those who are happiest in modern societies include some middle class people who have just the right amount of wealth (neither too much wealth that would result in excessive greed and unhappiness nor too little wealth that would result in excessive poverty and deprivation and unhappiness), some lower class people who have become content with a minimalist and ascetic lifestyle, and some upper class people who enjoy all the pleasures that luxuries can provide and sometimes generously return some of their wealth to the community through philanthropy. Just as there are miseries for those people at the bottom of the world order, there are even worse miseries for the domesticated animals slaughtered and exploited in industrial factory farms as well as the wild life forms killed in their natural environments by human hunting and human-caused environmental devastation and species extinctions through industrial development and human overconsumption and depletion of natural resources. While farm animals living on farms with brutal execution practices and poor inhumane living conditions have short and horrific lives full of unimaginable pain and suffering, farm animals living on more humane farms have very limited happiness fulfilling their biological needs and wants and reproducing in great numbers. Similarly, domestic pets owned by humans often have very happy and pleasurable lives if raised and cared for by good families. While most humans remain meat eaters regardless of the suffering of farm animals, some people are so morally outraged or at least personally disgusted by the suffering and corpses of animals in farms and meaty foods that they become eaters of diets without meat, making them vegetarians and vegans. Of course, since domestic pets are not eaten by humans, unlike farm animals, domestic pets generally have happier lives filled with less suffering than animals. However, pets raised in dysfunctional human families naturally have lives full of unhappiness and suffering and full of animal abuse (the animal equivalent of child abuse and domestic abuse). On the whole, regardless of some farms being more humane than others to their animals, while domesticated plants and animals are often more numerous than their wild counterparts and can be fruitful and multiply more often, they can only do so as slaves to the human species that primarily views them as food and clothing resources. Thus, the social and technological progress of civilization in the 21st century has been very uneven throughout the world, resulting in a horrific gap between rich and poor at the national and international levels with a class of billionaires and nuclear armed governments allied with multinational corporations at the top of the world order and millions of impoverished peasants, wage slaves, and foragers at the bottom of the world order. Even though the United Nations has failed to bring peace on Earth among nations, some of its current humanitarian organizations have alleviated the worst social ills in impoverished societies. Meanwhile, modern scientists, using advanced technology, have unlocked many of the mysteries of nature and have investigated the nature of the small and large scales of reality. These scientists have studied atoms, genes, and the whole cosmos itself through amazing technologies like the particle accelerator (atom smasher), electron microscope, and space telescope.


SCIENCE & TECHNOLOGY
FACTIONARY
There's a hypothesis that states that the entire universe might be a computer simulation.

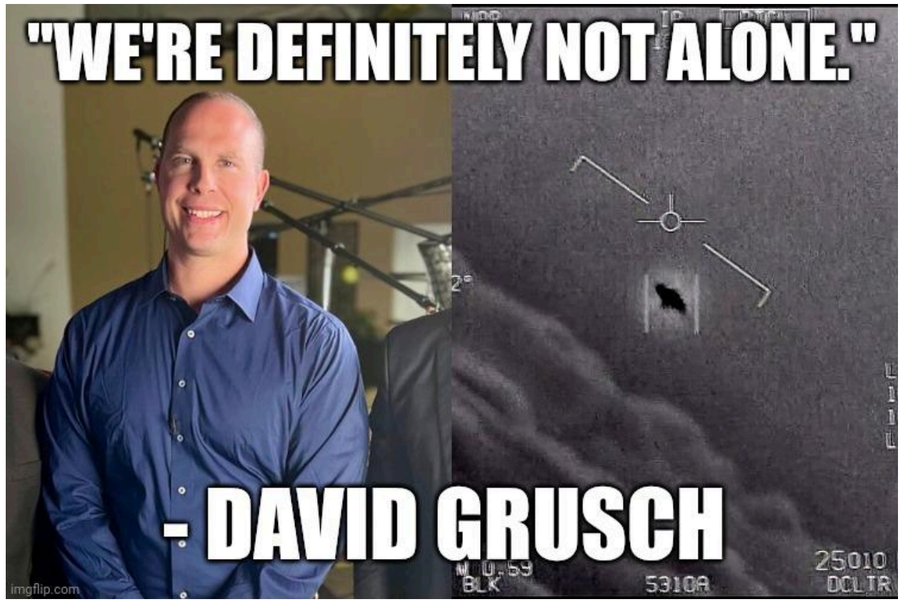
Scientific theories of the future as well as the scientific technologies that could influence the future of humanity enable current people to imagine what the future of their species will be. While humans and earthling life forms continue to evolve and change, the autonomous machines that were first created in the industrial revolution and that have now gained artificial intelligence and robot bodies in the 21st century pose a possible threat to humans and perhaps represent the next stage of evolution and intelligence from an organic to a more complex cybernetic, metallic, and electronic phase. As modern supercomputers continue to develop and eventually become so-called quantum supercomputers, it is conceivable that humans, if they do not go extinct first, might be able to upload their consciousness into machine bodies or even into virtual bodies to move beyond biological bodies. Along the same lines, humans or other alien life forms might eventually develop advanced supercomputer simulations of virtual worlds that are almost indistinguishable from the presumably real physical world, as discussed by the philosopher Nick Bostrom, who has argued that it is possible the observable universe is actually a computer simulation within a larger reality beyond the observable universe, making it a so-called "Matrix" (akin to a super advanced video game world). Thus, the future of humanity remains very uncertain, balanced between the possibilities of planetary and biosphere destruction or evolution into species beyond *Homo sapiens* and into settlements on the countless worlds of outer space and cyberspace. While nuclear weapons, climate change, and modern global warfare threaten all life on earth, the creation of space voyaging ships provides the hope that mankind can leave the earth if it is significantly damaged by a human-induced or natural disaster caused mass extinction event for a new home planet among the stars. In addition, the potential existence of parallel universes and higher spatial dimensional membranes in the multiverse enables the possibility that future humans, the more technologically advanced evolutionary descendants of humans, or more technologically advanced aliens could eventually leave the observable universe behind and travel into the parallel universes and higher spatial dimensions of the potentially real multiverse.

On the other hand, it is very possible and even more probable that the stars are not for Man and that humans will go extinct long before they can ever leave planet earth in large numbers. Humans could go extinct in the near or far future through the following natural and social disasters: a sudden end to the entire universe due to the universe actually being in a state of false vacuum that subsequently decays to a true vacuum state, resulting in the destruction of all material bodies; a different sudden end to the universe if the universe collides with another parallel universe in the multiverse, resulting in the end of the universe and the destruction of all living and nonliving bodies within it; the simulators of the potentially simulated universe deciding to put an end to the simulation or the simulation coming to an end due to power loss, resulting in the end of the matrix-like universe and all conscious simulated people and NPCs within it; a wandering black hole entering the solar system and destroying the solar system and planet earth, ultimately absorbing all its matter into its gravitational singularity; a nearby supernova causing a gamma ray burst that spreads such intense radiation to the earth that humans and perhaps all cellular life forms on the planet go extinct; an asteroid from outer space once again colliding with the earth and causing another mass extinction event for humans and many life forms as one presumably did during the mass extinction event that wiped out the dinosaurs; a global thermonuclear war or the human invention and use of a future superweapon even more powerful than nuclear bombs, resulting in a mass extinction event that wipes out humans and most or all other life forms of the biosphere; a hostile super intelligent artificial intelligence surpassing human collective intelligence and destroying humanity to take over the planet; a global pandemic that is so deadly to humans and that spreads so rapidly through global travel that it causes the extinction of humans from their inability to find a vaccine to the disease; climate change and global warming resulting in such devastating social and environmental collapse that it causes the end of civilization and extinction of humans; a future ice age causing the collapse of civilization and extinction of all humans by extreme cold; an alien invasion by a technologically superior extraterrestrial species conquering planet earth and exterminating all humans; and geological natural disasters like continents changing from continental drift of plate tectonics or the eruption of super volcanoes leading to a mass extinction event for humans and much of the biosphere. Of course, some of these possible human extinction scenarios are more probable than others. Nevertheless, *Homo sapiens* like all species before and after its existence must one day inevitably go completely extinct or will evolve into an entirely new species by natural selection or artificial genetic engineering. Indeed while it is unknown if any of these possible causes for human extinction will be the ultimate reason of the fall of Man, the possible existence of parallel universes and parallel timelines in the multiverse could suggest that all of these apocalypses occur to different versions of the human species in various parallel universes. Thus, from the perspective of the multiverse, all of them might be true.

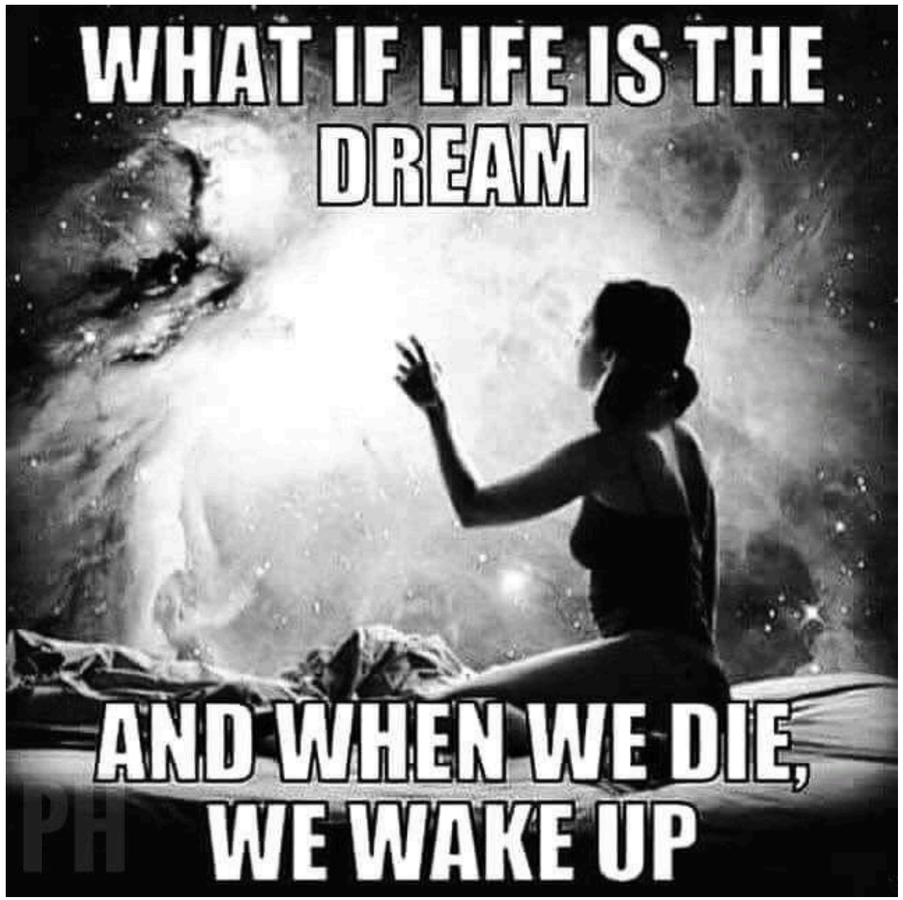
"MANY SIMILAR UNIVERSES CO-EXIST IN THE SAME SPACE, BUT IN AN INFINITE NUMBER OF DIFFERENT DIMENSIONS! THERE'S NO LIMIT TO THE VARIATIONS. CHIEF PARKER MAY BE A CRIMINAL IN ONE WORLD, AN APE-LIKE BEING IN ANOTHER...OR EVEN A WOMAN!"

The potential existence of a multiverse of parallel universes, some of which would have very similar, very different, and virtually identical doppelganger copies of people in the observable universe, has potential moral implications. While no ethical system of morals (either religious or secular) has been able to fully prevent widespread conflict between people due to people having territorial animal instincts and artificial divisions imposed by society, the multiverse and the possible existence of doppelgangers of everyone could suggest moral nihilism is true, which argues that the universe is amoral with no moral order and no one is morally obligated to follow any ethical and legal codes. If the multiverse of parallel doppelganger selves actually exists, then no matter how good a person is in this universe, evil doppelgangers of the person (resembling evil twins of the person) commit all possible bad acts in different parallel universes, simply because all physical possibilities consistent with the laws of physics would occur in the

multiverse. If such a dismal metaphysical scenario is really the case, then a potential consequence of it is that the multiverse is amoral and supposedly good behavior only benefits people in this universe but has no effect and is apparently canceled out by bad behavior people's doppelgangers commit in parallel worlds. For example, if a person decides to not kill someone when faced with such a choice in this universe, a doppelganger of the person made the opposite choice and did kill someone in a parallel universe. However, currently, modern science can only theoretically hypothesize and not physically prove the existence of these parallel worlds and doppelgangers, so perhaps the multiverse does not exist, there is only one observable universe, and moral nihilism is not true. However, even if moral nihilism was true, some people in the world would still follow moral and legal codes for pragmatic reasons of maintaining social stability and due to having naturally altruistic temperaments.



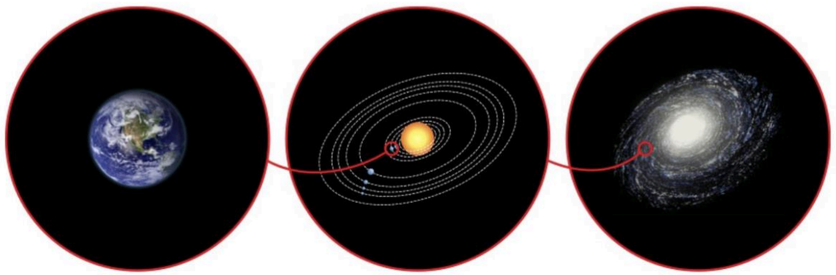
Meanwhile, assuming they really exist on the countless worlds and star systems of outer space, alien species, which are probably not but possibly could be visiting earth in UFOs and alien abduction visitations, are developing upon their own lines as perhaps organic life forms, cybernetic machines, or even virtual creatures in supercomputer simulations. These mysterious aliens wherever they are presumably make advancements in social and technological development and eventually expand their planetary, stellar, and galactic civilizations across the cosmos by exploration and conquest to meet the energy needs of their expanding populations. In contrast to the extraterrestrial hypothesis explanation of UFOs, anthropologist Michael Masters has proposed an extratempestrial or time traveler hypothesis explanation of UFOs. He believes that alien abductions and UFOs are indeed real, but the so-called gray aliens are actually the evolutionary descendants of *Homo sapiens* who are using time travel technology like flying saucers and closed timelike curves (CTCs) to visit and study their ancestors. Likewise, UFO whistleblower, military veteran, and former government intelligence official David Grusch has alleged in a 2023 American congressional hearing that the American government and its private defense contractors have a top secret crash retrieval and reverse engineering program of UFOs and dead alien pilots of a non-human intelligence (either extraterrestrial or even interdimensional in nature). However, official government disclosure of the presence of non-human intelligent aliens on earth has still not been performed by any presidents or heads of state, suggesting there is either a conspiracy to cover-up the existence of non-human intelligent aliens on earth or that Mr. Grusch is mistaken about the accuracy of his extraordinary claims due to having imperfect sources of information.



Just as there are different apocalyptic theories for how humans will go extinct, civilization will collapse, and the world and universe will eventually end, there are several major possibilities for what happens to the body and mind of each person after he or she dies. The first possibility is that the consciousness of the person ends completely at the moment of bodily death. In this materialist scenario in which the mind is equivalent to the mortal brain, the dead body decays and its unconscious molecules and atoms are reabsorbed into the biogeochemical cycle of the world. However, part of the unique genetic code of each person lives on if he or she has any children before the person dies and might continue to persist into the far future if his or her lineage endures and evolves into the potential evolutionary descendants of humans.
Just as the atoms and elementary particles of the person's body existed long before the person's biological birth, those same atoms and elementary particles will exist in dispersed form after the death of the body for as long as the universe exists into the far future. Often in this typically pessimistic scenario of death being a kind of endless dreamless sleep for each person, it is also usually assumed that everyone and everything in the universe also meets a final end in either a Big Crunch or Big Freeze end of the universe. In the Big Crunch scenario, everything (all matter, energy, and space-time itself) ultimately gravitationally collapses into a final cosmic singularity at the end of time. In the Big Freeze scenario, all atomic matter eventually decays into separate elementary particles drifting away from each other and only weakly interacting in an increasingly dark space-time volume that expands forever and almost but quite never reaches the coldest possible temperature of absolute zero. The second possibility is that the consciousness of the person continues to exist in disembodied spirit form after the death of the body. In this dualist scenario in which the body and mind are separate independent substances, the dead body decays into lifeless matter but the person's spirit continues to exist as a ghost, is eventually reincarnated into a new human or non-human biological body to begin a new earthly life, or enters a permanent or temporary afterlife realm (typically, a paradise of rewards for a morally good life or a dystopia of punishments for a morally bad life). The heavenly and hellish afterlife realms are usually assumed to exist as other higher physical dimensions or parallel universes beyond the observable universe that the spirit travels to after death. Or the positive and negative afterlife realms are assumed to be different dimensions of consciousness that the spirit experiences after bodily death in an idealist metaphysical model, in which consciousness is either more metaphysically fundamental than matter (monism and idealism) or consciousness and the material world are both equally fundamental substances of reality (dualism). Thus in either scenario, spirits of the dead would still survive the cosmic death of the material universe or consciousness in the form of disembodied minds would always persist in other spiritual dimensions even after it ends in this four-dimensional space-time volume when the physical universe comes to an end. The third possibility (revealed by relativity theory in physics and cyclical cosmology) is that after death the person starts the same exact life all over again as a

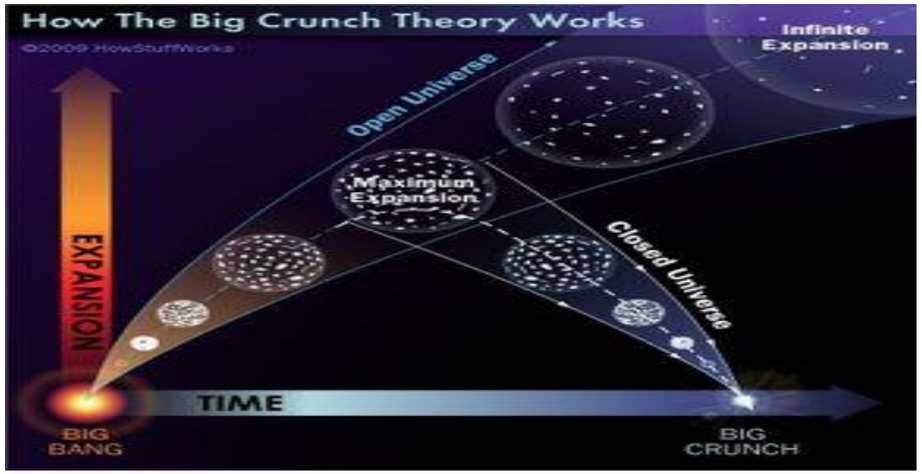
baby and has to repeat all moments of his or her life until death again. This process of living the same previous life for each person after death happens an infinite number of times. This eternalist or eternal recurrence scenario is due to modern advancements in understanding the nature of the time dimension. One metaphysical interpretation of relativity theory is that it supports eternalism or the block universe model, in which all moments of time (past, present, and future) are equally real and persist forever. Indeed, this eternalist interpretation of relativity theory is what makes time travel to the real past and future at least theoretically possible in modern physics. Similarly, in various cyclical models of the universe's evolution in cosmology (in some versions of the Big Crunch closed universe model and the Big Freeze open universe model), the universe is a cyclical process. In this scenario, the Big Bang was merely the beginning of the current cycle of the universe, the Big Bang was preceded by the ending of a previous cycle of the universe, and the end of the universe by Big Crunch or Big Freeze in this current cycle of the universe will be followed eventually by a new Big Bang to begin another cosmic cycle. These cosmic cycles happen an infinite number of times, and all events in these cosmic cycles are exactly the same each and every time the cycle repeats. Thus, in such a cyclical universe, a dead person remains unconscious and nonexistent for the remainder of the current cosmic cycle but once the current cycle of the universe ends, a new Big Bang starts the cycle all over and begins the same cosmic evolutionary process that eventually leads to the person being born again. The person is born again as a baby and has to live the same exact life and experience the exact same death again in the infinitely many cosmic cycles. The person has already done so an infinite number of times in past cosmic cycles and will continue to do so forever an infinite number of times in future cosmic cycles. Perhaps the easiest way to understand this unintuitive scenario is to imagine life being like a movie that is capable of being restarted and rewatched with all the same movie scenes happening again for multiple viewings of the same film. The fourth possibility is that a person who dies in this universe continues to exist in exact copies or in very similar or very different doppelganger copies (resembling physical twins of the person) in the infinitely many parallel universes of the multiverse. Metaphysically, it is unclear if these parallel selves are just clones of the person with a similar but independent consciousness separate from the person in this observable universe or if the person's consciousness leaves his or her dead body in this universe and reincarnates itself into one of the doppelganger bodies of the multiverse an infinite number of times to essentially always survive death in all universes. This multiverse scenario results from multiverse cosmology of parallel universes existing beyond the observable universe. This multiverse model is based on various scientific parallel universe models in cosmology and physics, including the many worlds interpretation of quantum mechanics, the infinite model of space-time, and various cosmological models that posit multiple big bangs creating separate space-time volumes. While most speculation about the existence of a multiverse comes from physics, one current neuroscientist, Patrick McNamara, has speculated that perhaps dreams are really evidence of parallel universes. In this psychological model of the multiverse, each person's consciousness is fundamentally connected to the minds of their doppelgangers in parallel worlds. Every time a person dreams after going to sleep, he or she is temporarily experiencing one of the lives of one of the doppelgangers existing in one of the parallel universes. Likewise, one of the doppelgangers is dreaming of this person's life in the observable universe. While most dream psychologists would reject this model and explain dreams as mental simulations that the brain accidentally generates during sleep, if this dream multiverse model is true, then everyone (both non-scientists and scientists) already has direct experiential proof of the existence of the multiverse and doppelgangers. The fifth possibility is that the universe is a computer simulation created by godlike simulators with unknown intentions. In this matrix scenario, it is possible that the simulators of this matrix-like simulation can bring every dead person back to life by either restarting the simulation or by taking advantage of some sort of glitch in the system. This scenario is very similar to how characters in video games that die are respawned back to life to continue the game, regardless if they are playable characters or mere NPCs (non-playable characters controlled by the computer). Thus, in this simulation scenario, each person is eventually respawned back to life in the simulation as many times as the simulators allow and for as long as the simulation exists. The sixth possibility is the psychological possibility that life is just a dream so each person simply wakes up from the dream once it comes to an end with the person's death. One version of this dream theory can be a literal interpretation of it, in which at some point in the distant past during his or her life, the person fell asleep, started a long dream that subjectively like the duration of an entire real separate lifetime, forgot all about their real life in the real waking world, became totally immersed in the illusory experiences of the dream world, and finally will wake up from the illusion of the dream life when the dream body eventually dies. Another bizarre version of this dream theory is that each person's mind is not really a human mind inhabiting a human body on planet earth. Instead each person's mind is really a Boltzmann brain (a brain floating in outer space that was randomly generated by quantum fluctuations in the vacuum) that is dreaming that it is a human being. If minds really are dreaming Boltzmann brains, then it is possible that they exist either in the current Stelliferous Era of cosmic history or that they exist in any of the far future eras of cosmic history (such as the Degenerate, Black Hole, or Dark Eras) and are just dreaming that they exist in the past era of stars, planets, and people. Thus, the ninth stage of life, which is the end of biological life known as death, whatever form it ultimately takes, is perhaps the most interesting.

The **Kardashev scale** is a method of measuring a civilization's level of technological advancement based on the amount of energy it is able to use. The measure was proposed by Soviet astronomer Nikolai Kardashev in 1964.[1]

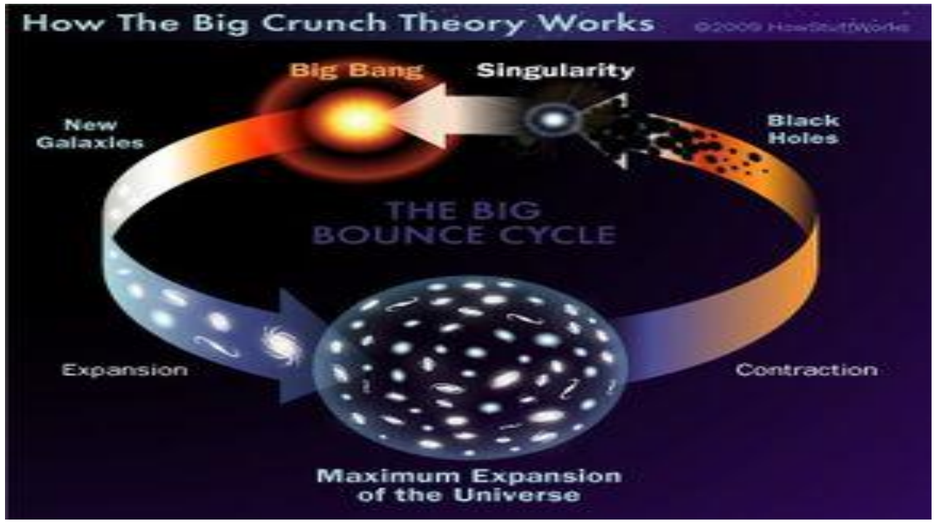


Type I: 10^{16} W *Type II:* 10^{26} W *Type III:* 10^{36} W

Transitioning from the death of the individual to the end of the world and universe as predicted by contemporary natural science, people can look to the far future and envision the fate of the material Cosmos. In the far future, the adventure of organic evolution must come to an end and Mind must reach the end of its development. Many hundreds of millions of years into the future, the continental drift of tectonic plates will destroy and rearrange the current seven continents of the world into several future supercontinents, forever altering the world and civilization. Several billion years from the present, the yellow dwarf sun will transition through various stages of stellar nuclear fusion until it becomes a red giant star, whose heat vaporizes and makes extinct all life on planet earth. Around the same time of several billion years into the future, the Milky Way galaxy will eventually collide and merge with its neighbor of the Andromeda galaxy, forever changing the composition of the earth's galactic neighborhood. Even after the probable vaporization and extermination of life on earth by the red giant sun, the sun will continue to conclude final stages of stellar nuclear fusion and material decay as it transitions into a white dwarf star and then finally becomes a black dwarf star across long ages into the future. Many billions and possibly many trillions or more years from now, all Life in the universe must go extinct as the universe itself comes to an end. Not only must all earthly life go extinct with the end of the world, but all extraterrestrial life forms must one day go extinct when the universe itself eventually dies. Apparently, only the evolution of life and consciousness into the forms of interdimensional beings, who would probably be composed of more exotic forms of energy than regular matter and who would be capable of traveling into potential parallel universes and higher spatial dimensions beyond the observable universe, could enable life itself to possibly survive the end of the universe. Black holes, which are remnants of collapsed cores of large stars and which could either lead to gravitational singularities or to wormholes connecting distant spaces and times in the same universe or between parallel universes, might enable such interdimensional and parallel universe travel, as might artificially constructed wormholes. Such black holes and wormholes, along with future space vehicles that can approach close to the speed of light, might even eventually allow time travel to the past and future, suggesting the temporal threads of history might be more complex and even circular than linear and relatively simple historical chronology suggests. Likewise, the potential existence of a multiverse of infinitely many parallel universes could suggest that every possible timeline in this observable history (such as possible timelines in which historical events happen differently than they did in this timeline, such as the Nazis winning World War 2 or the British winning the American Revolution) actually happens in various parallel universes. In this scenario, the life histories of everyone and everything in the cosmos occur differently in the infinitely many parallel universes of the multiverse. Thus, there might be many real parallel histories in addition to the single historical timeline of the observable universe.

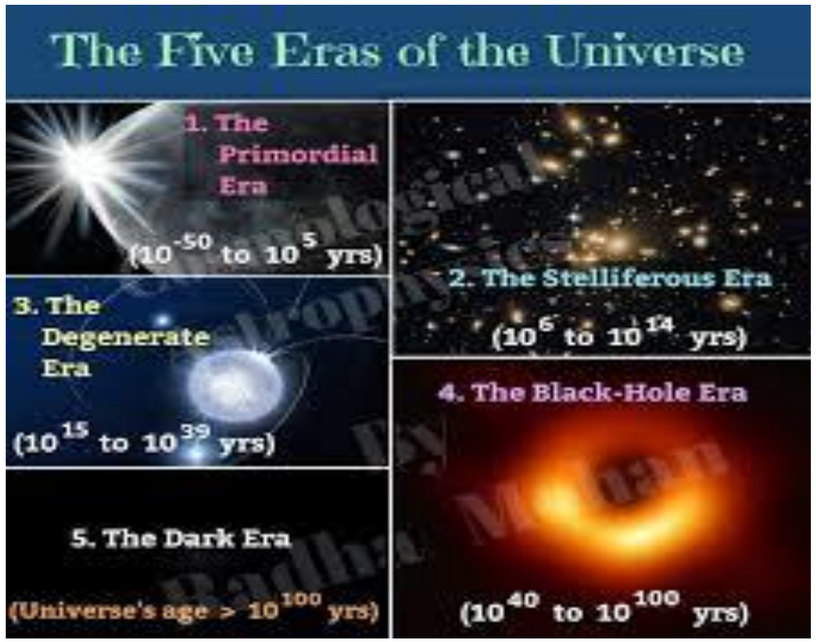


Apart from the two major scientific theories about the end of the universe, which predict it would not end for many billions or trillions or even as long as a googol years from the present era, there is one theory of cosmic apocalypse which could end the universe within the Contemporary era. This disturbing theory of cosmic vacuum decay argues that if the fundamental energy fields of the entire universe are actually in a state of false vacuum then they could spontaneously quantum tunnel into a state of true vacuum, resulting in the universe spontaneously assuming new laws of physics that would destroy all physical bodies in the universe as an expanding sphere of destruction from which vacuum decay originated expands at the speed of light and eventually consumes the rest of the universe. This horrific scenario is physically possible, even if it is mathematically and statistically improbable, so the universe could end any day now. Besides the theory of vacuum decay, the two major cosmological theories concerning the ultimate fate of the universe in the far future are the Big Crunch theory and the Big Freeze theory. These two theories concern the expansion of space-time following the Big Bang and if there is enough matter and energy in the universe to cause the entire universe to gravitationally collapse back into a state of infinite heat and density and into another cosmic singularity (making the universe end in the Big Crunch of the closed universe model) or if there is not enough matter and energy in the universe to reverse the expansion of space-time, which would then continue to expand and cool forever to become infinitely large and nearly reach absolute zero (making the universe end in the Big Freeze of the open universe model). The mysterious nature of dark matter and dark energy make it unknown which future apocalypse of death by cosmic fire (Big Crunch) or cosmic ice (Big Freeze) will actually occur in this universe. Whichever ending occurs in this universe, the opposite ending would occur in a parallel universe of the multiverse. If there is enough dark matter and regular matter to force eventual contraction of space-time, then the Big Crunch becomes more probable. However, if dark energy continues to accelerate the expansion of space-time, then the Big Freeze becomes more probable.



In the Big Crunch scenario, after many billions of years of future time pass, the following major events occur: the expansion of space-time eventually halts and reverses as space-time starts contracting and becoming smaller in volume; the receding galaxies currently moving farther apart start to move closer together; the collective gravitational attraction of all matter and energy in the universe finally overpowers the expansion of space-time, causing space-time contraction from universal gravitational collapse; the currently redshifted and cooling cosmic background radiation generated from the Big Bang begins to become blue shifted and heats up to incredibly high temperatures as the density of matter and energy increases in the shrinking space-time volume; all the galaxies are destroyed and forcefully merged together; black holes and supermassive black holes collide and merge to accelerate the destruction of material bodies; all material bodies and their atoms are heated to such extreme hot temperatures that they become a universal plasma of elementary particles; and all mass-energy and space-time collapse into a state of infinite density, infinite heat, and infinitesimal size as the universe gravitationally collapses into another cosmic singularity, the Big Crunch (which is somewhat similar to the universe's point of origin, the cosmic singularity of the Big Bang). Subsequently, either time ends completely in the Big Crunch and the universe comes to a permanent end or through the subsequent Big Bounce, in which the state of extreme heat and density of the small and hot universe generates a sort of rebound effect, another Big Bang and subsequent new expanding

space-time universe may occur. This potential cyclic process of Big Bang, Big Crunch, and Big Bounce may occur infinitely many times, causing an infinite number of finite cosmic cycles.


The Five Eras of the Universe
1. The Primordial Era
(10^{-50} to 10^{5} yrs)
2. The Stelliferous Era
(10^{6} to 10^{14} yrs)
3. The Degenerate Era
(10^{15} to 10^{39} yrs)
4. The Black-Hole Era
(10^{40} to 10^{100} yrs)
5. The Dark Era
(Universe's age > 10^{100} yrs)

On the other hand, in the Big Freeze or Heat Death scenario as billions of years transition to trillions of years and eventually reach a googol years into the far future, the following major events occur: space-time expands to an infinite size for an infinite duration of time, causing the cosmic background radiation generated from the Big Bang to become further redshifted and causing the temperature of the universe to cool and closely approach but never quite reach the coldest possible temperature of absolute zero; the current recession of the galaxies away from the Milky Way galaxy continues until the observable universe becomes less visible as the other galaxies move so far away from the Milky Way that their light cannot reach it faster than the expansion of space-time moves them away into the void; as universal temperatures decrease due to the expansion of space-time separating galaxies and decreasing the density of matter and energy in the universe, all stars go through final stages of stellar nuclear fusion and eventually decay into black dwarf stars or, if they are large enough, conclude with final supernovae explosions and leave behind black holes or neutron stars, bringing an end to the Stelliferous Era; by the end of the Degenerate Era, all atoms and regular matter decay as the subatomic particle protons become unstable and decay, resulting in the dissolution of all material bodies composed of atoms and their reduction to elementary particles or new atoms of positronium (consisting of electrons and their antimatter partner of opposite electrical charge, the positron); although organic life and possible robotic life composed of ordinary matter (atoms of protons, electrons, and neutrons) could barely survive toward the end of the Stelliferous Era (when atomic matter will still exist) as they consume the energy of dying stars losing their nuclear fuel and becoming more incapable of supporting the light and heat necessary for planetary life, the organic era must come to an end when the Degenerate Era results in the decay of protons and atomic matter, which currently known life composed of such material cannot survive; by the end of the Black Hole era, black holes and supermassive black holes consume most remaining exotic material bodies before the black holes themselves eventually evaporate and decay over unimaginably long ages of future time from the relentless release of so-called Hawking radiation; as a googol years of future time pass, the universe enters the Dark Era, in which only the increasingly cold, empty, and dark void of infinitely expanding space-time remains, along with elementary particles of matter and energy drifting apart forever and only occasionally weakly interacting and sometimes forming positronium atoms(improbable quantum tunneling events might become more probable and eventually occur given enough future time, allowing matter to temporarily assume more complex forms that will eventually decay back into elementary particles again over long ages); despite the apparent ultimate decay of the Dark Era, it is possible but not probable that these positronium atoms will eventually compose exotic forms of life, operating strange organic processes very slowly and thinking with consciousness unimaginably slowly due to the energy scarcity of the time (it is also possible that improbable events like quantum fluctuations of the vacuum will eventually occur given enough future time and will generate the formation of temporary Boltzmann brains or disembodied intelligences living in outer space that have a strange form of life and consciousness); and as the Dark Era continues into the infinite future of the endlessly expanding universe, countless eons of time longer than a googol years pass, eventually possibly resulting in highly improbable events becoming more probable and actually occurring given enough time, including a cosmic Poincare recurrence event or quantum fluctuations event and quantum tunneling event from vacuum energy, which possibly reverses the heat death state of the universe and results in a new Big Bang and new expanding universe. If the Dark Era does not result in another improbable Big Bang, then time will still continue forever but the modern complex universe will never be reborn. However, if the cyclic process of Big Bang then Big Freeze then Poincare

Recurrence (or Quantum Tunneling and Fluctuations) occurs, then this could happen an infinite number of times, creating another infinite series of finite cosmic cycles. In addition to this main model of the Big Freeze scenario due to the infinite expansion of space-time, there is a variation of this heat death model known as the Big Rip theory. If the expansion of space-time continues to relentlessly accelerate due to dark energy, then the dark energy of expansion will become greater than both the gravitational force holding large material bodies together and the electromagnetic and nuclear forces holding atoms together. As a result, all atoms will be literally ripped apart into separated drifting elementary particles incapable of combining and forming new atoms and complex material objects as they expand faster and faster beyond each other into the increasingly cold, dark, and empty cosmic void of the endlessly expanding cosmos. In another cosmic apocalypse scenario of multiverse cosmology known as the Big Splat theory, the observable universe eventually collides with a parallel membrane universes in the far future, causing the destruction of the universe and causing a separate Big Bang expansion of a new baby universe as a byproduct of the two universes' collision in hyperspace. However, if the multiverse exists beyond the observable universe, then the death of this universe will not be the end of all the other many, perhaps infinitely many, parallel universes and the life forms and minds they might contain. Thus, life must either go completely extinct or must somehow evolve in complexity and collective intelligence and develop a collective solution to survive the end of the universe. Such attempts at future advanced life trying to survive the death of the universe could be these future beings using advanced space vessels and wormholes to escape the dying universe and to enter hospitable parallel universes and higher dimensions of hyperspace or these future beings using time machines generating wormholes or closed timelike curves to travel back in time to the more hospitable Stelliferous Era of the past. In addition, if spirits, like the ghosts of dead humans and aliens, do actually exist, then it is possible that they could also survive the end of the universe as these spirits of the deceased move into different potential afterlife realms, possibly located in higher spatial dimensions as well. This potential movement of the spirits of the dead to afterlife dimensions is theorized in the study of near-death experiences, in which apparently the spirit leaves the dead body, travels through a dark tunnel of some sort to leave the physical world, and temporarily enters a dimension of light beyond the world (the classic scenario of "seeing the light at the end of the tunnel" at the moment of death).

In conclusion, the ultimate ending of this grand story of the cosmic epic of life and death is currently unknown. While the individual life is a small version of the grand cosmic story and is often overwhelmed by the greatness of the Cosmos, the human mind's ability to contemplate and develop a mental picture of the birth, life, death, and rebirth of everyone and everything in the cosmos enables the small personal mind to momentarily partially encompass and transcend the cosmic whole of which it is a small part. Will Man, Life, Mind, and Spirit live happily ever after in the Universe and Multiverse despite the inevitable death and possible rebirth of the Cosmos? Only time will tell…

The Three Jokers of IT

A Batman, Joker, & IT Fan Fiction Written by Jaime Gomez

Based on my Fan Reinterpretation of Batman, Joker, & IT Films

Based on Fictional Characters from Warner Bros. and DC Comics